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VENEREAL DISEASE CONTROL IN CEYLON

Since 1947, WHO has undertaken many activities in the field of venereal disease control, including a campaign in Ceylon, which was started in July 1951 at the request of the Government of that country. In December 1953 the WHO team of specialists considered that it could withdraw and that the appropriate national health authorities, under the direction of Dr E. D. C. Pereira, could continue the campaign. In the report on which this article was based, Dr S. M. Laird, WHO short-term consultant, analyses the situation as it was in November 1958.

The five main objectives of the WHO venereal disease control campaign in Ceylon were:

(1) to establish in Colombo a model central venereal disease clinic, which would also be used for the training of medical and paramedical staff;

(2) to develop full-time venereal disease services with trained staff in the main centres outside Colombo ("outstations");

(3) to introduce serological testing of expectant mothers as a routine measure and thus to control congenital syphilis;

(4) to train local staff to carry out a simple serological test for syphilis at the main outstations;

(5) to develop diagnostic and treatment facilities for seafarers in the Port of Colombo.

By comparison with countries which have had venereal disease control services for many years, there is still, of course, a great deal to be done. For this reason, it is more logical to compare the present situation with that of 1951 when the WHO team began its work in Ceylon. Taking this as the starting point there is no doubt that great progress has been made—and this applies not only to the first two years of the campaign during which it had the support of WHO, but also to the last five, during which the campaign staff were exclusively national. A good start has been made towards the achievement of all the proposed objectives.

Central clinic

Since its foundation in 1952, the central clinic in Colombo has been considerably improved and extended. At the moment, it needs more space and equipment so that it may extend its training, laboratory and administrative services.

The quality of the clinical work has improved since the beginning of the campaign, and the same may be said of the laboratory activities. The staining of smears is excellent, and the early diagnosis of syphilis, especially in the sero-negative, primary stage by means of microscopic dark-field examination, is now satisfactory; this represents a considerable advance since 1951. The VDRL test has been used in the clinic since 1956. The quality of the work at the clinic laboratory is particularly important in view of the fact that it is used as a training centre.

The Colombo clinic's activities also include investigation of contacts and health education of patients. Between 1952 and 1955, 6523 persons declared by patients to be contacts were examined; of these, 2508 were found to be infected. The results so far obtained justify continuation of this practice, possibly with some modifications such as more direct participation by the physician; up to the present time, investigations of suspected contacts have been carried out by five health inspectors and a public health nurse under the direction of a chief inspector.

Health education is carried out by means of talks, film shows, pamphlets, etc., ad-

dressed to different groups, such as expectant mothers, students over 16 years of age, manual workers, etc. This is an important activity to which special attention must be given. There are some indications which suggest that there has been an increase in prostitution and in homosexual practices in Ceylon, these being, in turn, related to ignorance and low standards of living in a rapidly increasing population.

The professional training provided at the Colombo central clinic may be considered as satisfactory. Since 1950, 34 doctors have specialized in venereal diseases, including 15 who were awarded fellowships to enable them to complete their studies abroad. It is true that 14 of these doctors have left the campaign for various reasons—and this indicates mistakes in selection which should be remedied so as to avoid wastage of training facilities. Once specialists are trained, it is essential for them to be kept up to date; this is especially difficult in view of the isolation in which many of them work. It is therefore extremely important that the outstations be provided with small reference libraries and specialist journals.

The statistics published by the Colombo central clinic for the period 1952-1957 show a definite drop in the incidence of early syphilis, confirmed by the results of serological examinations of expectant mothers: there were 5% positives in 1951, and only 1% in 1957. On the other hand, the incidence of gonococcal infections remains almost unchanged, and some recent cases suggest that penicillin-resistant strains of gonococci may have appeared.

Outstations

As already mentioned, one of the main purposes of the campaign in Ceylon was to create a number of clinics outside Colombo to provide full-time venereal disease services under the direction of competent specialists. Although selection and training of staff were begun immediately, progress has been slow because of the shortage of physicians. Up to the present, 8 of the proposed 15 outstations are functioning, and to these are attached 11 peripheral clinics. The activities vary according to the training and enthusiasm of the outstation medical directors, but in general a satisfactory reduction in the number of cases of early syphilis has been noted.

Serological examinations

Serodiagnosis is made difficult in Ceylon by the frequency with which blood specimens sent to the Medical Research Institute are contaminated. There is also a general shortage of material. Contamination of specimens could be avoided to a considerable extent if the persons taking them were better trained and if the equipment in use were improved.

Another drawback is the delay in communicating the results of analyses. Now that it is proposed to extend the services of the Colombo central clinic, there is need for a large laboratory under the direction of a specialist with wide experience in the usual serological tests. In view of the increasing importance of false-positive biological reactions, facilities for the treponemal immobilization test are required.

One of the main aims of the campaign is to carry out prenatal serological tests for the purpose of preventing congenital syphilis. This work began in Colombo at the outset of the campaign, and in the period 1952-1957 180 000 pregnant women were examined. Positive cases are treated with PAM, and family contacts are investigated. The available data show that these prenatal investigations are producing results and that at the present time congenital syphilis is rare.

Outside Colombo, however, the situation is less satisfactory. At present, routine serological testing of pregnant women is established practice only in restricted areas round the principal outstations. Nevertheless, in these areas there is less congenital syphilis than there was.

Port of Colombo clinic

The clinic in the Port of Colombo began operating in October 1958. It is situated very conveniently, and personnel and equipment

are adequate. It is to be hoped that it will achieve its aim, but it is as yet too early to evaluate results.

* * *

As already indicated, there are reasons to believe that the control of venereal diseases in Ceylon is not entirely a medical question; indeed, it is quite possible that the work of the campaign may increase. A cardinal point in the campaign is that the public must be better educated. More stringent measures should be taken to prevent the increase of prostitution and male homosexuality, practices which are instrumental in spreading venereal diseases. Extreme care must be taken in the choice of personnel to be trained for the campaign so as to avoid waste of money and effort. The future needs of the campaign in medical personnel have been estimated as follows: for the Colombo central clinic at least 6 medical officers, and for the outstations 15 medical officers working full-time.

HEALTH EDUCATION OF THE PUBLIC

Many health services lose in effectiveness if the people for whom they are intended do not understand their purpose or if, because they have not been told, they do not realize to what extent they themselves can help to make them a success. It is for this reason that health education of the public has become an important item in WHO's assistance to Member States. It has been found that the best results are obtained when the health workers in most direct contact with the people participate in the educational work. More emphasis is now laid, therefore, on direct education of individuals, families, or groups, for which knowledge of the psychology, educational and cultural level, and economic situation of the people concerned is a necessary foundation. WHO has accordingly assigned health educators to its teams working on demonstration projects in maternal and child health, venereal disease control and rural health. The experience gained has proved the usefulness of health education of the public as a means of obtaining the active participation of families and local communities in health campaigns.

WHO has advised on the planning of health education services in a number of countries; it has supplied consultants to participate in preliminary surveys and in the organization of health education services to meet general or specialized problems; and it has set up health education committees to advise and help national and provincial health administrations. It is accepted in present plans for health education that this is part of the task of all health workers who come into contact with the public, and the importance of training professional and auxiliary medical and health workers in the principles, concepts, and methods of health education is recognized.

One of the most serious handicaps in health education work is inadequate knowledge of the attitudes of various peoples to, and their beliefs about, health and disease; of the influence of family and group habits; of the effect of many traditions and customs and of patterns of social organization, and so on. In an effort to solve this difficulty, WHO has engaged ethnologists and arranged seminars and conferences with the help of anthropologists and social psychologists. The chief aim of these seminars and conferences is the exchange and dissemination of information obtained from various countries by means of different types of study. In December 1953, an Expert Committee on Health Education proposed a series of " guiding principles " for the planning of health education programmes that would give the best results in particular circumstances. In the Committee's report [1] it is pointed out that people will learn if the new ideas are effectively related to those problems that they consider important and do not run counter to their ways of thinking

[1] *Wld Hlth Org. techn. Rep. Ser.*, 1954, 89

and their particular environmental conditions. In order to change ways of thought and living, those ways must first of all be understood. The health educator with a sense of mission will accept human communities as they are, respect their personality and, putting aside all idea of his own superiority, endeavour to work with them on a friendly basis. In 1957, an Expert Committee on Training of Health Personnel in Health Education of the Public [2] met to study ways of deriving the maximum benefit from the health education activities of medical and auxiliary health staff.

How to interest the public

In this connexion, health workers will certainly be interested in the opinions of a publicity expert at a discussion group on education in safety measures, reported in a recent number of the Boletín of the Pan American Sanitary Bureau, which acts as the WHO Regional Office for the Americas.[3] According to the author, it is nearly always possible to arouse people's interest, since every normal human being is interested in many things and in particular in himself and his family and in what affects its members. The key to the problem is to succeed in relating what it is desired to say to something in which the individual is already interested. One of the axioms of successful communication is that if we wish to convey something effectively to the public, we must first of all put ourselves in the public's place. Every public has some interest, some need, some wish, which can be touched upon and to which the message it is desired to put across can be related. This need or wish must be found out and used as an " emotional bridge " between the educator and the public—a bridge over which the message can pass.

There are three elements in communication, each one of which determines the significance and value of the other two. The first element is the " content " of the message, that is, what it is desired to say; the second is the " form ", that is, the manner of expressing and transmitting the message; the third is the " public ", that is, the people for whom the message is intended. Unless these three elements are carefully and satisfactorily interrelated, the message communicated will not have the desired result. The chosen theme will therefore depend on the person or group for whom the message is intended, and the form of expression must be suitably and carefully related to the content and the public.

For a realistic approach, therefore, it is first necessary to decide clearly what group of persons is to be influenced. It is better at the outset to choose a limited group of people on whom considerable pressure can be brought to bear. In this way it is possible to get to know the special characteristics of those concerned and relate the message to their feelings rather than to those of the educator.

Another important point is that methods of mass communication are not likely to be as successful in making people change their habits in the field of health as, for example, in the commercial field. Such methods (newspapers, magazines, radio, and television) become relatively less effective when it is a question of inculcating important ideas in the minds of the public. Although mass communication is undoubtedly an effective way of promoting entertainments and publicizing commercial products, it is not powerful enough to inculcate serious ideas in the minds of individuals to a point where they will change their conduct.

What then is the most effective health education medium: visual material, the written word, the spoken word, or personal experience ?

The author is of the opinion that " personal experience " and " face-to-face " communication take first place. The only way of implanting worthwhile ideas is not to be led astray by the latest mechanical media but, on the contrary, to make use of the traditional basic methods of person-to-person communication. Health educators can participate in " community activity " programmes, create such programmes, and encourage them in one way or another. In such programmes

[2] *Wld Hlth Org. techn. Rep. Ser.*, 1958, **156**

[3] Ratner, V. M. (1959) *Bol. Ofic. Sanit. Panamer.*, **46**, 556

they can use the personal communication method among small groups of people who can meet and talk together. Mass communication methods are not suitable for educating the public because the results obtained do not justify the time, effort, and money expended.

The physician as educator

Another opinion along the same lines but expressed from a different angle is to be found in a working document submitted to the WHO Regional Office for Europe Conference on Health Education held in July 1957 at Wiesbaden (German Federal Republic).[4] Medical opinion as reflected in WHO expert committees and in professional journals—it points out—now seems to support the general thesis that doctors and nurses should be concerned with health education, but that there is a place for the specialized health educator. This view is based on evidence that health education in general has an important effect on the health conditions of population groups. The author cites the following as evidence obtained from health education programmes:

(1) An analysis of the effect of health education on infant mortality among families attending the Polela Health Centre in South Africa revealed that the infant mortality rate among families which had received health education (expressed as a percentage of live births) was 11.25%, whereas it was 24.2% among families which had received no such education.

(2) Taking the hospital admission rate for children as an index of parental health education, Charlotte Naish, a general practitioner in England, after setting up a patients' club for fathers and another for mothers, found that the rate of admission to hospital of children under 11 years fell progressively in five years from 2.6% to 0.4%. In these clubs talks and discussions covered general points in paediatrics that were aimed at improving the relationships between doctor, mother, and child.

(3) In the hospitals in Cardiff (Great Britain) health visitors have, since 1944, been operating an after-care programme of education for diabetics discharged from the hospitals. Teaching covers urine testing, diet and cookery, injections, care of the feet, and the problems of diabetes in general. The result has been a dramatic reduction in the number of cases of coma and of gangrene, as well as in the need for attendance at hospital out-patient departments.

(4) Significant results were obtained by S. B. Tokar, who made an interesting survey of the health education imparted in apprentice courses in Soviet factories; he observed changes in behaviour as a result of the various methods used. Zabolotskaya also obtained clinical improvements in cases of gastric ulcer after instructing patients on the regime they were to follow.

(5) Finally, acceptance of mass radiography and diphtheria immunization campaigns has been shown to depend on the scope of the health education programme and the care with which it has been prepared.

It seems evident, therefore, that physicians, nurses, and other health workers must receive instruction in health education. The author considers that the aim of this instruction should be to prepare health personnel to " diagnose " and " treat " the state of culture of the individual or group they serve. For this, the student must acquire a general education, and a sufficiently mature personality. This means that while students must have a good general knowledge of health subjects, they must also be able to recognize and accept the limitations of their knowledge; they must be conversant with effective methods of communication, and develop a quickness of mind that will enable them to understand and respect people's ideas and behaviour, however irrational they may appear. Of special importance is the study of human relationships, especially the doctor/nurse/patient relationship; there must also be understanding of the physical environment, the economic situation, and customs and beliefs in relation to health. Instruction on

[4] Burton, J. (1959) *Bol. Ofic. Sanit. Panamer.*, **46**, 547

these aspects provides the necessary background for a proper understanding of the mentality of the patient or of the community.

As for communication, much of a doctor's or nurse's time is spent talking to people, either privately with patients, their relatives, or community leaders, or in group discussions, talks or lectures. Such meetings should have a two-way effect: doctor (or nurse) and patient should both emerge the wiser. Interviewing relatives is a difficult business (far more complicated than interviewing patients) and every medical student should be taught to do it as carefully as he is taught to carry out a clinical examination.

Making the educational "diagnosis" on which successful health education "treatment" can be based is also highly skilled work. Popular beliefs on disease are often based on knowledge which is out-dated by many decades. For example, surveys recently made in Great Britain showed that 20-30% of the persons questioned believed that tuberculosis was hereditary, but not infectious. Here is a case where the doctor or nurse should know the situation and administer the appropriate health education "treatment".

The considerable amount of information now in existence on processes of learning and on methods of imparting knowledge and techniques would be of great value to health workers in their work and to students in their studies. From this point of view it should be remembered that the teaching methods used in professional education will determine the student's attitude when he comes to use his own methods of health education later on. Professional teaching methods should therefore include those which are also commonly used in health education, such as case conferences, tutorial and free group discussions, practical work on a given subject, etc. The creation of patients' clubs is another teaching method that merits consideration. The cultivation of the ability to produce well-designed and well-written material and to teach, and the study of simple teaching aids such as tape-recordings and flannelgraphs may greatly encourage the physician and nurse in their function as educators. This basic training in health and education should indirectly inculcate in the student, in the early stages of his education, a feeling for people and an interest in them as complete human beings living in a complex environment, for whom disease is only an incident in their lives.

Bilharziasis

"This little booklet * is a *sine qua non* for all workers interested in bilharzia. The work sponsored by the World Health Organization on this subject is not adequately appreciated and this publication should indicate something of their activities, which cover a surprising range. In addition, the published figures, maps and pictures will prove very useful to teachers and administrators.

"The chapter on 'bilharziasis as a man-made disease' deserves wide publicity in this country, where extending irrigation is likely to increase the parasite load to a dangerous level. The need for further research is apparent from the stress which this publication lays upon the difficulties of mollusc control, sanitation and education.

"This book can be heartily recommended."

South African Medical Journal, 1959, **33**, 1000

* World Health Organization (1959) *International work in bilharziasis, 1948-1958*, Geneva. Price: 1/9, $0.30 or Sw. fr. 1.—.

REVISION OF A UNIVERSITY NURSING CURRICULUM

The Higher Institute of Nursing at the Faculty of Medicine, University of Alexandria, Province of Egypt, United Arab Republic, was established in 1955, with help from WHO, to provide university-level training for nurses in the Eastern Mediterranean Region. The WHO staff at the Institute includes a senior nurse-educator, who serves as Director, and six nurse-educators. This team works in close collaboration with a national staff of eight members at the Institute, and with the staffs of co-operating hospitals and agencies. The article that follows is based on a report by Dr Charlotte Seyffer, Director of the Institute, and describes certain adjustments which have been found necessary in the curriculum of the Institute on the basis of the experience gained during its first four years' work.

There is tremendous interest in the establishment of new schools of nursing in countries now initiating or expanding health programmes for their peoples. It is believed, and rightly so, that nursing is an indispensable part of the over-all health service, and that new schools of nursing should have the highest possible educational standards from the outset in order to ensure a supply of well-trained nurses in the years ahead. While great care is taken to plan the type of curriculum best suited to each school, newness is no guarantee of adequacy and a critical review of the curriculum should be undertaken early in the life of the school to see how well it is fulfilling its purpose.

Such a review was undertaken in 1958-1959 at the Higher Institute of Nursing, University of Alexandria, Province of Egypt, United Arab Republic, where the first class to complete the four-year programme leading to the Bachelor of Nursing degree graduated in July 1959. It was thought that, by the time this class was in its final year, it would be in a position to offer useful suggestions, while the faculty would have a clear idea of some of the changes needed. Suggestions made by the 70 students in the three remaining classes of the school to the faculty members working closely with them were also taken into consideration. In assessing the value of the programme, the following main questions were asked:

1. What are the specific educational aims of the school?

2. What specific features of the curriculum are designed to achieve these aims?

3. Is the curriculum organized so that the students may derive the maximum benefit from it?

4. Is the achievement of the students in each major sector of the curriculum satisfactory?

5. What are the students' problems and expressed needs in each of the courses?

6. What are the major strengths and major weaknesses of the curriculum as carried out during the last four years?

Approximately 50% of the courses in the four-year curriculum come under the heading of general education (science and arts courses) and 50% under professional education, a distribution which is considered to be suitable for a university nursing programme. It was decided, after consultation with the professors in charge of the general education courses, that these courses were satisfactory for present needs. The courses in anatomy, physiology, chemistry, physics, bacteriology, parasitology and the social sciences therefore remain unchanged. Some problems of planing and implementation were, however, recognized in several of the professional nursing courses, and analysed in an effort to determine causes and remedies.

One of the first difficulties discussed related to the course in fundamentals of nursing, which is given during both terms of the first

year and aims at inculcating knowledge and skill in general nursing as a basis for the clinical nursing courses given during the remainder of the programme. Opportunities are provided for the students to practice such procedures as baths, irrigations, packs, positions for patients and the administration of medicines by mouth and by subcutaneous injection. Practical work had been limited, however, to carrying out these procedures in the nursing arts laboratory at the Institute, because the faculty believed that the students should practice under ideal, controlled conditions, before attempting to apply their knowledge and skill in actual hospital conditions. Evaluation of the course showed that it had failed to prepare students fully for their second-year work. They were completely unfamiliar with the hospital environment, and they had to spend extra time acquiring fundamental patient-care skills which might have been learned during the first year, had the opportunity been provided.

In an effort to solve this problem, an experimental unit was set up in a ward of the teaching hospital. The equipment and supplies needed by the first-year students were moved into the unit, and practical courses in patient care are now given there on two mornings each week. The students can practice in the nursing arts laboratory as before, but carry out the greater part of their practical work in the hospital setting. How far the clinical nursing experience gained during the first year will help students to progress more satisfactorily in the second year will not be known until the present school-year has ended. So far, however, it appears that it gives them a solid foundation for their second-year course in medical-surgical nursing. It may be noted here that all the students who entered the Institute at the start of this experiment completed the first year of the programme, and the faculty believes that the opportunity to take part in hospital work may have been a major factor in maintaining their interest.

A second problem was the interval between the course in maternity nursing (given in the second year) and the course in midwifery (given in the fourth year). The course in maternity nursing had been placed as early as possible on the programme to give students an introduction to human development and to the idea of centring comprehensive nursing care and health teaching on the family unit. The advantages of giving the course in the second year were, however, offset by the resulting lack of continuity between it and the midwifery course. The only solution to the problem seemed to be a completely revised schedule, reversing the order of the second- and third-year nursing courses in the curriculum, and this solution was accordingly adopted. With the maternity nursing course now in the second term of the third year, and the midwifery course following it in the fourth year, there will be exceptional opportunities for correlating all aspects of the maternal and child health sector of the programme.

The need for a course in psychiatric nursing was recognized for some time, and an introductory course was designed for the second year of the curriculum. Its scope was limited, however, because facilities for clinical work in a hospital for the mentally ill were not available, and such work is essential for a full understanding of psychiatric nursing. However, the Main University Hospital, which accommodates almost 1500 patients, offers opportunities for the care of patients with varying types of mental illness. In addition, the hospital has one unit with 30 patients who have been diagnosed as mentally ill and in need of special observation and care. By correlating the introductory course in psychiatric nursing with the second-year course in medical-surgical nursing, wider experience in this important field is now provided.

The revised curriculum is shown opposite.

When a curriculum is very new, there is usually some reluctance on the part of the faculty to ask for changes even when changes may be required. A new nursing education programme, however, demands critical analysis and revision soon after it is started. This is particularly true of university programmes which lack the accepted guidelines existing for the more traditional nursing education programmes. An early review of the curriculum is necessary also when the faculty has

First term (September to February)			Second term (February to June)		
Title of course	Hours per week		Title of course	Hours per week	
	theory	practice		theory	practice
FIRST YEAR					
Fundamentals of nursing	5		Fundamentals of nursing	5	
Anatomy (lectures and demonstrations)	3		Anatomy (lectures and demonstrations)	3	
Physiology (lectures and demonstrations)	3		Physiology (lectures and demonstrations)	3	
Chemistry	2	2	Bacteriology	3	1
Physics	2	2	Parasitology	1	1
Communications (I)	4		Communications (I)	4	
Sociology (I)	3		Psychology (I)	3	
			Nutrition	3	
SECOND YEAR					
Medical-surgical nursing	4	20	Medical-surgical nursing	4	20
• Medical-surgical and specialized lectures (by doctors)	2		Medical-surgical and specialized lectures (by doctors)	1	
Pharmacology and pharmaceutics	4		Fundamentals of psychiatric nursing	2	
Psychology (II)	3		Sociology (II)	3	
Nutrition (II)	2	2	Communications (II)	2	
Communications (II)	2				
THIRD YEAR					
Paediatric nursing	4	20	Maternal and infant nursing	4	20
Paediatric medical lectures	1		Maternal care medical lectures	1	
Anthropology	3		Infant welfare medical lectures	(8 lectures during the term)	
Psychology of learning	3		Forensic medicine	1	
Communications (III)	2		Principles and methods of teaching	2	
			Principles of nursing administration	2	2
			Political science	3	
FOURTH YEAR					
Midwifery	4	20	Public health nursing	4	20
Midwifery lectures	2		Public health administration	3	
Forensic medicine	(8 lectures during the term)		Community control of communicable disease	3	
			Economics	3	

• A total of 20 bedside clinical lectures, each lasting half an hour to one hour, are given by the medical staff in addition to the medical-surgical lectures.

been assembled from various parts of a country, or from abroad, and the members have had no previous experience in working together. The effectiveness of the new curriculum must be evaluated as the first students progress through the programme, and this means continuous analysis.

The Higher Institute of Nursing has now adjusted its curriculum to the known needs of its students, and during the next few years it will appraise the needs of the graduates in the various countries to which they will go to work. Only in this way can the faculty meet its full obligation to the governments which provide the facilities for the school, and to the students.

INTERNATIONAL WORK IN HEALTH STATISTICS, 1948-1958 *

7. International morbidity statistics

Death is a clear-cut event, and the number of such events can be counted. Disease, on the other hand, is infinitely varied, including everything from a minor departure from normal health which does not interfere with a person's activities to a chronic condition condemning a person to bed for a prolonged period. The person afflicted with a disease may experience only one period of illness during a selected period of observation, or he may have repeated illnesses from the same disease. Moreover, during the same period of illness he may suffer from two or more distinct diseases. The basic problem of what is to be counted is thus an exceedingly complex one, and morbidity statistics therefore require a broader approach than that required for mortality statistics. Important consideration has been given by WHO to developing the field of morbidity statistics. In 1950, the WHO Expert Committee on Health Statistics suggested that, in view of the magnitude and complexity of statistical procedures in morbidity, a conference of experts in morbidity statistics be convened with the object of obtaining an orientation, evaluation, and selection of the projects requiring international action in this field.[1] WHO was also asked to request national committees on vital and health statistics. and other appropriate national and international agencies, for reports on their activities in, and plans for, statistics of disease, and for their views on what could be done by WHO to improve them.

The Conference on Morbidity Statistics[2] held in November 1951 pointed out that morbidity statistics were required to amplify the information given by mortality statistics, and were useful, not only to public health and hospital administrators, but also to those concerned with social security programmes, to industrial undertakings, and to workers engaged in medical and social research. Morbidity statistics, it felt, should not be defined in any narrow way, but should cover all statistics relating to departure from health. Such statistics would be of value for the control of communicable diseases; for planning the development of therapeutic and preventive services; for an assessment of the economic importance of disease, and its relationship to social factors; for research into the etiology and pathogenesis of diseases, as well as into the efficacy of preventive and therapeutic measures; and for the national and international study of distribution of diseases.

The Conference felt that it would be useful to classify morbidity statistics in such a way that countries, whatever their stage of development, could make some use of the list; and it drew up the following list, which it did not regard as exhaustive, but as illustrative of the wide range and uses of morbidity data. Many of the types of statistics listed were by-products of organizations set up for other purposes, not primarily in order to ascertain morbidity.

* The earlier parts of this account of WHO's work in international health statistics appeared in: *WHO Chronicle*, 1959, **13**, 67, 214, 253, 378, 417, 446.

[1] *Wld Hlth Org. techn. Rep. Ser.*, 1950, **25**, 7

[2] *Wld Hlth Org. techn. Rep. Ser.*, 1952, **53**, 5

	Coverage		Uses	Applicability
	population	*morbidity*		
Sickness surveys by home visitation of: all persons in selected area	X	1-4	b,c,d,e	ABC
representative sample of selected area	X	1-4	b,c,d,e	(A)BC
representative sample of whole population	W	1-4	b,c,d,e,h	C
Mass diagnostic and screening surveys (tuberculosis, etc.)	XY	3	a,d	ABC
Census enumeration of sick persons	W	3	d,h	BC
Census enumeration of certain defects	W	3	h	BC
Records of notifiable communicable diseases	WX	4	a,b,d,e,f	BC
Registration of certain diseases (cancer, rheumatism, etc.) with or without follow-up survey	WX	4	c,d,f,g,h	C
Certification of certain conditions for special benefits (including special food allowances)	W	4	b,d	C
Records of road accidents	WX	4	b	C
Records of industrial and occupational accidents and diseases	Y	4	b	C
General hospital in-patient records	Z	2-4	c,d,f,g	ABC
General hospital or clinic out-patient records	Z	4	c,d	ABC
General home-visiting and nursing services	Z	4	d	BC
Records of special clinics, hospitals and agencies (tuberculosis, mental diseases, venereal diseases, dentistry, etc.)	Z	4	b,c,d,f,g	ABC
Continuous records of doctors' practices	Z	2,4	d	BC
Social security schemes, compulsory and voluntary	Y	1-4	c,d,e	BC
Voluntary health plans and funds	Y	1-4	c,d,e	BC
Pensions and veterans' records	Y	3,4	d,g	C
Life-insurance and sickness-insurance records	Y	3,4	e,f	BC
Records of health welfare centres (maternity, infant, and pre-school child)	(Y)Z	3,4	b,c,d,f	BC
Medical records in educational institutions (routine inspections, sickness, absenteeism)	Y	1-4	a,b,d	BC
Records of physical examinations and sickness absenteeism in industrial, civil service, and other occupational groups	Y	2-4	b,c,e	ABC
Sickness and recruitment records of the Armed Forces	Y	1-4	a,b,g,h	(A)BC

Explanation of figures and letters

W. Whole population of country (or representative sample of it)
X. Population of selected locality (or sample of it)
Y. Selected types of persons in whole population (or samples of them)
Z. Persons applying to selected health services
1. All sicknesses at a point of time
2. All sicknesses during a period of time
3. Selected diseases or impairments at a point of time
4. Selected diseases or impairments during a period of time
a. Control of communicable diseases
b. Planning for development of preventive services
c. Ascertainment of relationship to social factors
d. Planning for provision of adequate treatment services
e. Estimation of economic importance of sickness
f. Research into etiology and pathogenesis
g. Research on efficacy of preventive and therapeutic measures
h. National and international study of distribution of diseases and impairments
A. Countries with no complete enumeration of population and lacking, or with only slightly developed, public health and vital registration systems
B. Countries with an over-all or partial census and with a well-developed public health and vital registration system for parts of the population (e.g., for large towns) but not for all
C. Countries with an over-all census and well-developed facilities for obtaining morbidity statistics

The Morbidity Conference also discussed the various types and sources of morbidity statistics. The sickness or population survey was widely applicable, both in the less and in the more developed countries. In the former, the possibility of obtaining morbidity data from the existing registration or record services was extremely limited, but the organization which was responsible for the planning of the health services could carry out a sample survey, which was relatively inexpensive and could be utilized to answer a variety of questions. However, experts in sampling theory were required to plan and supervise the surveys and analyse the data collected. The WHO Expert Committee on Health Statistics accordingly recommended in 1951 that national health administrations establish groups of such experts, and that national committees on vital and health statistics explore the possibilities of the survey, particularly its applicability in the less-developed countries, and study the statistical methodology involved. It asked certain countries which had experience of surveys to report to WHO on their use, so that information could be conveyed to national committees on vital and health statistics or their equivalents elsewhere.

Other sources of morbidity statistics of importance were records of hospital in-patients and out-patients, and those kept by general practitioners, health welfare centres, educational institutions, the armed forces, and industrial, civil service and other occupational groups (in respect of absence on account of sickness). Many of those records manifestly suffered from defects—those from hospitals, for example, were of a highly selective character and contained an unknown amount and direction of bias—but clearly their use as a source of statistics on disease could be greatly developed with the collaboration of national committees on vital and health statistics.

Two fundamental problems faced by WHO were those of definitions of terms used in morbidity statistics, and measurement of morbidity. There were terms descriptive of ill health, of a particular episode of ill health, of severity, of duration of an episode or of its location in time; as well as special terms used in hospital statistics, and terms referring to medical consultation. Furthermore, diseases could be classified according to type, severity, duration or the kind of medical care involved, or the usual prognosis, or the degree or likelihood of (permanent) incapacity or invalidity; or according to the probable period of invalidity, or the prospects of effective therapy or cure, or a rough scale of health ranging from the state of complete health to extreme ill health. On none of these points was there any standardization of definition; nor was there any on methods of measuring morbidity and the terms by which they should be described. The measurements appeared to be concerned primarily with the frequency of illness in the population, and with the results of treatment carried out on all or a part of it. They therefore depended on information about the illness in a given period of time (which might be expressed in days, weeks, or years), or at a single point in time. Discussing the comparability of the statistical units involved in the compilation of morbidity statistics, the WHO Expert Committee on Health Statistics [3] agreed that these units would generally be " persons ", " illnesses " or " spells (' episodes ', ' periods ') of illness ". In any given period, say a year, a patient might suffer from illness A twice and from illness B three times, at different periods. He would then have contributed one unit of statistics to " persons ", two to " illness ", and five to "spells of illness ". The Committee regarded it as essential that it should be made clear to which of these three concepts of morbidity the statistics actually related. Furthermore, whatever the class of unit, the illness would either begin within the period of observation, end within it, be current at any time within it, or be current at some particular point within it. Alternatively, the statistics might relate to the duration of sickness current or ending during the period.

In its sixth report [4] the Expert Committee considered that for many purposes morbi-

[3] *Wld Hlth Org. techn. Rep. Ser.*, 1957, 133, 5
[4] *Wld Hlth Org. techn. Rep. Ser.*, 1959, 164, 5

dity could best be measured in terms of: (1) periods (spells) of illness, or alternatively, persons with illness, *commencing* during a defined period; (2) illness *current*, or persons ill, during a defined period; (3) illness *current*, or persons ill, at a particular point of time within the period, or at an average point of time within the period; and (4) the duration of these illnesses. The term " incidence " was recommended for use in describing the measurement of frequency of illnesses commencing during a defined period, the term " period prevalence " in connexion with illnesses in existence at any time during a defined period, and the term " point prevalence " for illness in existence at any particular point of time.

The WHO Expert Committee on Health Statistics has also reviewed morbidity studies carried out by national committees on vital and health statistics, and the progress made in a number of subjects relating to morbidity statistics.[5] Realizing that many problems in health statistics could best be dealt with on a regional basis, the Committee recommended that regional and inter-regional conferences of specialists from countries presenting comparable conditions should be held periodically, with WHO co-operation and the participation of national committees on vital and health statistics, to discuss such problems in the light of local conditions.

Noting the stress laid by the Seventh Revision Conference on the desirability of exploring methods of vital and health statistics registration suited to the needs of countries at various stages of development, the Expert Committee expressed its satisfaction at what was being done in that respect. The African seminar on vital and health statistics, held at Brazzaville in November 1956, under the joint auspices of the WHO Regional Office for Africa and the Commission for Technical Co-operation in Africa South of the Sahara (CCTA), had gone into the problem at great length, discussing existing statistical organizations and procedures, methods of obtaining statistics, training of staff and the interpretation of the data collected. The Latin American Centre for the Classification of Diseases, established in Caracas in 1955 under the joint auspices of the Government of Venezuela and the Pan American Sanitary Bureau, had published booklets of instructions, pamphlets, and special studies, and established a training programme for coders. The Expert Committee, after listening to reports by the statistical advisers attached to the Regional Offices for the Eastern Mediterranean and the Americas, noted their usefulness, but observed that in many countries statistical information of varying degrees of accuracy was being mixed, with the result that the value of the data as a whole was diminished. It recommended, therefore, that the data in those countries be sorted into homogeneous groups, and that, if published, each set of data be accompanied by a formal statement of their degree of reliability and a clear indication of the population groups to which they referred.

Hospital statistics

The WHO Expert Committee on Health Statistics has from the outset paid attention to hospital statistics, as an obvious, if frequently untrustworthy, source of information on disease, even in the least developed countries. A Sub-Committee on Hospital Statistics met in Geneva in 1950.[6] It discussed, among other topics, the limitations placed upon the utilization of hospital experience by the fact that the selective character of hospital admissions generally precluded the drawing of conclusions regarding the prevalence and distribution of disease in the community as a whole. It considered that the International Statistical Classification of Diseases would generally serve the needs of hospitals better than any other classification for the compilation of statistics of illness, and recommended its use, both for the benefit of hospitals themselves and as a step towards international comparability.

The Sub-Committee felt that certain selected countries and areas with a definable population at risk, as well as selected hospitals, should be encouraged to compile

[5] *Wld Hlth Org. techn. Rep. Ser.*, 1957, 133, 3

[6] *Wld Hlth Org. techn. Rep. Ser.*, 1950, 25, 31

hospital morbidity statistics as a matter of routine. For such statistics, individual reports should be prepared, the part on diagnosis to be completed by the physician himself or under his direction in accordance with the grouping given below:

I. Principal disease, injury or other condition which led to the admission.

II. Principal complication(s) of I (stating the most important one first and whether present at admission).

III. Principal accessory acute condition (stating whether present at admission).

IV. Principal accessory chronic condition.

The Sub-Committee made several other recommendations regarding the form of the report and what it should contain, and emphasized that the preparation of reports of that kind did not mean that there should be no numbering of individuals in terms of admissions or discharges, or of principal diagnoses. Certain special problems relating to statistics in mental, maternity and tuberculosis hospitals, to a diagnostic cross-index (using the International Classification), to the preparation of a code for anaesthetics and operations, and to multiple admissions were suggested for further study either by national committees on vital and health statistics, or by the Expert Committee on Health Statistics.

Noting the Sub-Committee's reference to the selective character of hospitalized illness, the Expert Committee afterwards stressed the need for investigating ways and means of bridging the gap between hospital statistics and statistics of the community from which the hospital patients were drawn. This might be done by the family type of survey, or by the complete coverage of medical care services.

The Expert Committee in its fifth report [7] considered that it was still not in a position to make recommendations on the type of form needed to ensure international comparability of hospital statistics of morbidity. It accordingly recommended that WHO study the systems at present in use throughout the world, as a preliminary step to a future and thorough examination of the subject. In the collection of hospital statistics a distinction should be made between residents and non-residents of an area, so as to link the data more closely with the population at risk. The Committee also expressed the view that the one-day census of hospital patients that was used in Japan was an economic way of getting useful information on the medical and other characteristics of the population receiving medical care.

In its sixth report [8] the WHO Expert Committee on Health Statistics reviewed a series of terms commonly used in connexion with hospital statistics—for example: admission, first admission, re-admission, discharge, in-patient, patient-day, duration of stay—and noted that there seemed to be a high measure of agreement on the definitions of these terms. It considered that the general definitions of measurements of morbidity were applicable to hospital in-patient morbidity statistics, but with a number of changes in terminology, e.g., "admission rate" would correspond to "incidence rate", and "daily bed occupancy" to "prevalence rate".

Another step towards international standardization of hospital statistics was taken by WHO with the convening in November 1958 of a European Conference on Hospital Statistics and their Application in Health Administration. The Conference considered that the International Classification of Diseases (Detailed List of three digits, or the extended list with four-digit sub-categories) was suitable for the diagnostic coding of hospital records. For special types of hospitals or for special groups of diseases, a local *ad hoc* extension of the classification by means of five- or six-digit sub-categories might sometimes be necessary. For the presentation of hospital statistics, a much shorter list was required and WHO was urged to prepare such a standard list. Mention was made of certain short-cut methods such as hospital censuses, sampling, periodic surveys and *ad hoc* enquiries to collect the necessary data. The need for ensuring medical

[7] *Wld Hlth Org. techn. Rep. Ser.*, 1957, **133**, 15

[8] *Wld Hlth Org. techn. Rep. Ser.*, 1959, **164**, 9

secrecy was emphasized. The Conference also considered the value of hospital records for hospital planning, study of disease, and in particular research. It concluded that if additional data could be secured by means of special enquiries, the material could well be used in studies on human genetics, birth weight in relation to the duration of gestation, maternal age and parity, etc.

Notifiable communicable diseases

Notifiable communicable diseases represent only a small part of the total morbidity but, owing to their preventible nature, they are of considerable importance in public health. The problems involved in securing prompt and reliable information on these diseases were studied by the WHO Conference on Morbidity Statistics in 1951.

The Conference recommended that the fullest co-operation be sought from the medical profession and health institutions to improve completeness of notification, that uniform procedures for ensuring correction of diagnosis be adopted, and that it be made clear for each disease whether it was intended that notification be based on clinical findings alone, or laboratory and other evidence, or both. The national committees on vital and health statistics were asked to study special problems, and WHO was requested to undertake a critical appraisal of the uses of statistics on epidemic diseases and of their value to the epidemiologist, the quarantine official, and the health statistician.

A seminar on reporting of communicable diseases held in Chile in 1955 developed basic procedures for reporting and recommended legal, educational and administrative measures for this purpose.[9] Procedures for the international exchange of data were developed. The recommendations made have been used in the revision of the *Guide for the Reporting of Communicable Diseases in the Americas*.[10]

[9] Pan American Sanitary Bureau (1955) *Basic procedures for the reporting of communicable diseases* (Scientific Publications, No. 9), Washington, D.C.

[10] Pan American Sanitary Bureau (1955) *Guide for the reporting of communicable diseases in the Americas* (Miscellaneous Publications, No. 6 (Rev.)), Washington, D.C.

The problem of notification of disease was considered by the WHO Expert Committee on Health Statistics in its sixth report.[11] The Committee emphasized the desirability of distinguishing in tabulations between " provisional notifications " and " corrected notifications " and asked that indication be given of the estimated degree of error to which these statistics are subject as a result of incompleteness of notification. In respect of certain notifiable diseases, such as tuberculosis, distinction was to be made, if possible, between " new cases " and " newly detected pre-existing cases ".

Accuracy and completeness of notifiable disease statistics are linked with legal provisions and their implementation. WHO has published a survey of the existing legislation on the notification of communicable diseases.[12]

Sickness surveys

The sickness survey is a good statistical tool if properly handled by trained persons. Its advantages have been succinctly expressed in the third report of the Expert Committee on Health Statistics:

" (*a*) it provides the possibility of linking morbidity data to a variety of social and economic conditions;

(*b*) the population covered is automatically defined;

(*c*) it offers a means of linking the data in existing medical records to that obtained from the general population;

(*d*) if probability sampling methods are employed, the desired information can be obtained with specified precision at the smallest possible expense;

(*e*) the method is flexible and can be utilized to provide answers to a wide variety of specific questions of practical administrative as well as scientific importance; and

(*f*) if the objectives of the investigation are not continuous, once the specific

[11] *Wld Hlth Org. techn. Rep. Ser.*, 1959, **164**, 9

[12] *Int. Dig. Hlth Legis.*, 1958, **9**, 606

objective has been accomplished the survey can be easily stopped and the personnel utilized for investigations of other problems." [13]

The survey raises all the problems common to all medical statistical inquiries, such as the standardization of nomenclatures, definitions and classifications; and one peculiar to itself, the problem of sampling. Here are involved the questions of whom to include in the survey, how to train the field teams, and what methods to use; and the answer to these questions in turn depends on the statistical theory of sampling adopted. It is rarely practicable or even desirable to survey a whole community. The First International Conference of National Committees on Vital and Health Statistics in London in 1953 drew attention to the value of modern sampling methods in all statistical practice, and recommended the use of such methods for the study of morbidity.[14]

Special problems of under-developed areas

In various proposals for remedying the lack of vital and medical statistics in the world, account has been taken of the special needs of under-developed areas. In the United Nations *Principles for a Vital Statistics System*,[15] for example, the importance of special arrangements for the counting of the population (census) and the registration of vital events is indicated, and methods suitable for various types of country are recommended. Health and medical authorities are concerned in these matters, especially as the evaluation of mortality and morbidity is difficult in the absence of such denominators as size of population and general birth and death rates. The same general problems which face the vital statistician also frustrate the medical and health investigator. These include: absence of a comprehensive national health administration with local officers; lack of communications; the existence of social and economic barriers to the acceptance of such essential matters as censuses and notification of diseases; lack of medical and nursing services; illiteracy of the population; difficulties, both social and economic, in the introduction of special techniques such as demonstration areas and mobile teams to collect essential data. Inevitably, the lack of essential data from large parts of the world and the recognized difficulties in obtaining early comprehensive information from such areas have presented the various international statistical groups with serious problems.

As early as 1949, the Expert Committee on Health Statistics [16] recommended that special studies be carried out in under-developed areas on methods suitable for measuring the state of health and the prevalence of disease. It called for an early report on these methods so as to make such knowledge available to similar areas.

Similarly, the Conference on Morbidity Statistics,[17] held in Geneva in November 1951, noted that the International Statistical Classification is difficult to apply in countries with few qualified physicians and where morbidity statistics are based largely on imperfect diagnoses or symptomatic descriptions. It therefore suggested that the World Health Organization ask such countries to design lists of selected diseases based on the Intermediate Lists of the International Statistical Classification.

The first International Conference of National Committees on Vital and Health Statistics,[18] held in London in October 1953, examined the question of areas with under-developed health and statistical services. It agreed that every effort should be made in such areas to maintain full records and to produce summarized figures of the diseases treated in medical institutions, even though such summaries sometimes gave a misleading picture. It proposed that, in areas where full information could not be readily obtained by the usual administrative means, medical surveys should be organized, possibly by

[13] *Wld Hlth Org. techn. Rep. Ser.*, 1952, **53**, 9

[14] *Wld Hlth Org. techn. Rep. Ser.*, 1954, **85**, 14

[15] United Nations (1953) *Principles for a vital statistics system* (Statistical Papers, Series M, No. 19), New York

[16] *Wld Hlth Org. techn. Rep. Ser.*, 1950, **5**, 9

[17] *Wld Hlth Org. techn. Rep. Ser.*, 1952, **53**, 22

[18] *Wld Hlth Org. techn. Rep. Ser.*, 1954, **85**, 11

using mobile teams. It urged that when any health programme was introduced into such areas statistics should be made an integral part of the programme. It also drew attention to the value of sampling methods, either in the form of sample registration districts or of special inquiries, as an important device for determining the essential facts.

Aware of the importance of providing a simple list, the Conference for the Seventh Revision of the International Classification, recommended an amendment to the WHO Nomenclature Regulations.[19] This amendment gives greater flexibility by providing for the use of special lists of diseases easily recognizable by subordinate medical personnel yet following the general structure of the International Classification.

In keeping with the need for continuing study of local difficulties in this field, the seminar on vital and health statistics held in Africa in November 1956 gave consideration to: hospital statistics, returns from outpatient dispensaries, records from mobile medical units, data on notifiable diseases, and crude causes of death in certain countries as collected by non-medical personnel.[20]

[19] *Off. Rec. Wld Hlth Org.*, 1956, 71, 28 (WHA9.29)

[20] Biraud, Y. (1956) *Méthode pour l'enregistrement par des non-médecins des causes élémentaires de décès dans les zones sous-développées* (Unpublished working document WHO/HS/60)

The report of this seminar,[21] together with other material on the subject, was studied by the WHO Expert Committee on Health Statistics and commented on in its fifth report.[22]

Morbidity statistics published by WHO

The WHO *Epidemiological and Vital Statistics Report*, since the beginning of 1957, has produced morbidity statistics[23] for diphtheria, meningococcal infections, tuberculosis in certain non-European countries, acute poliomyelitis, smallpox in Europe, acute infectious encephalitis, tuberculosis in Europe since 1950, brucellosis, endemic typhus and other rickettsial diseases, typhoid and paratyphoid fevers, dysentery, influenza, venereal diseases in Europe, and whooping cough. The statistics on diphtheria,[24] to take an example, cover cases of the disease from 1950 to 1955 in 15 African, 21 American, 17 Asian, and 24 European countries and in Australia and New Zealand. Recent data are given on the seasonal distribution of cases, their sex and age distribution, and the number of vaccinations carried out in various countries.

[21] Unpublished document CCTA/WHO/STATS.SEM./35 (Rev. 1)

[22] *Wld Hlth Org. techn. Rep. Ser.*, 1957, 133, 9

[23] *Epidem. vital Statist. Rep.*, 1957, 10, 319, 288, 205, 116, 147, 26, 46, 8; 1958, 11, 78, 116, 162, 258, 307, 262

[24] *Epidem. vital Statist. Rep.*, 1957, 10, 319

MENTAL HEALTH IN AFRICA SOUTH OF THE SAHARA

For an appreciation of what present and future mental health problems are likely to be in Africa, it is sufficient to consider for a moment the extraordinarily rapid developments now taking place there in so many domains.

People are increasingly forsaking traditional customs, and leaving the rural areas for the towns, while cultural and social upheavals are occurring due to the fact that Africans today are receiving an education which is entirely different from that of their forbears. In a human society that is evolving so rapidly, there is a danger that mental health problems will become more and more important. While these problems have some points in common with those affecting societies whose evolution has slowed down, they differ sufficiently to justify a special approach to psychiatric care in Africa. Africans are all the more susceptible to mental disorders in that they are exposed from birth to such

infections as trypanosomiasis, malaria, and helminthiasis, and because malnutrition—aggravated at present by alcoholism—is more or less general in Africa.

In the light of this situation, how should psychiatric care be organized in Africa? Two facts should be noted at the outset: firstly, that nearly everything has still to be done in this field, which means that the way is clear for psychiatric services that will really meet the situation; secondly, that there is a considerable shortage of funds practically everywhere, so that some inexpensive system will have to be devised, at least to start with.

Naturally, at some time in the future, it will be necessary to consider the building of psychiatric hospitals which will be real treatment centres and not mere places of confinement. But, assuming that the financial means for this will eventually be forthcoming, there is one error which must at all costs be avoided: the building of psychiatric hospitals before adequate specialized personnel are available. Many administrations tend, in fact, to think that they have already found the solution to a public health problem when they have premises at their disposal. Where mental health is concerned, if premises are available without adequate specialized staff, they are soon likely to be full of all kinds of socially maladjusted persons for whom psychiatry can do little.

There is a solution, however, which can be quickly put into practice and is at the same time an economical one: the creation of psychiatric services within the existing general hospitals. Under this system, any building necessary will be on a limited scale, and the other specialized services such as electroradiology, laboratories, and surgery will be already there. Moreover, the psychiatrist will be less isolated, and recruitment and training of personnel will be facilitated. However, if there is no possibility of admitting patients to a specialized psychiatric hospital service, other methods of treatment may be envisaged. For example, an out-patient clinic can be attached to a general hospital or to a rural health centre. In areas where none of these facilities exists, it should be possible to set up psychiatric field units, which, in addition to giving the usual somatic treatment, would collect data on the prevalence of mental disorders in the area and provide the information necessary for planning a more elaborate mental health service.

In any case, whatever plan of action is considered, one principle of psychiatric assistance is especially important, namely, that of team-work. A typical team of six might, for example, include two psychiatrists, two social workers, one male or female nurse, and one psychologist—and at least some of the members of the team should be local inhabitants. Since in Africa it is not possible to count upon having a sufficient number of specialized teams quickly, use could be made of teams for general medical and public health work already on the spot, giving them intensive training in the principles of modern psychiatry. The shortage of specialized psychiatrists might also make it necessary to use the services of general practitioners interested in psychiatry, for whom further training facilities could be provided.

It is desirable for psychiatrists practising in Africa to have a thorough grounding in tropical medicine, but their selection raises many problems. Until more African doctors decide to specialize in psychiatry, European medical men will have to be responsible for advancing mental health in the continent. Recruitment and training of nurses, work-therapists and social service personnel is easier, but care must be exercised here too if the work of the team is to be of value in the field of African public health in general and not only in that of psychiatry.

These are the main points that emerge from the recently published final report of the seminar on mental health in Africa south of the Sahara, which was held at Brazzaville from 24 November to 4 December 1958 "to define the first measures to be adopted in the field of mental health in Africa." [1]

[1] A limited number of copies are available from the WHO Regional Office for Africa, P.O. Box 6, Brazzaville, Republic of the Congo.

Epidemiological and Statistical Information

Incidence of quarantinable diseases, 1958-1959

The following brief review of the incidence of quarantinable diseases relates to 1958 and the first nine months of 1959, and is based on a document submitted to the WHO Committee on International Quarantine in October 1959. The figures for 1959 are based on provisional notifications.

Plague

The downward trend of plague incidence observed in recent years continued in 1958 and 1959. The number of cases officially notified throughout the world (excluding continental China) fell below 300 in 1958, and about 100 cases were officially notified during the first nine months of 1959. With the exception of 3 cases in the United States of America, all cases notified in 1959 occurred in areas where plague was also present in 1958.

The 69 cases reported in Africa in 1958-59 occurred in the north-eastern part of the Belgian Congo, in the Central Province of Kenya and in the Tananarive Province of Madagascar, where the last case was notified in April 1959.

In the Americas there were active foci in the Provinces of Loja and Chimborazo in Ecuador (49 cases in 1958-59) and in the Departments of Piura, Lambayeque, Cajamarca and Ancash in the north-western part of Peru (78 cases in 1958-59). In Brazil all 25 cases notified in 1958 occurred in the State of Bahia. A single case was also reported in the Misiones Province of Argentina, where no case had been reported since 1952. In the United States sporadic cases were notified in 1959 in rural areas of California (2) and New Mexico (1).

In Asia (outside continental China) the highest number of sporadic plague cases (about 150 in 1958-59) was reported in Burma. A considerable proportion of these cases occurred in urban areas such as Mandalay, Rangoon and Bassein. In India in 1958-59 cases were reported mostly in the southern part of the country: in the Kolar and Mysore districts of Mysore State (16 cases) and in the Salem district of Madras State (32 cases); though at the end of September 1959, 10 cases were reported in Himachal Pradesh State, Northern India. In Viet Nam, 15 cases were notified in Tanan and Baria Provinces in 1958, but none in 1959. In Indonesia, Java was apparently free from plague in 1958 but evidence of the disease was reported from the Bojolali Regency (Central Java) between March and May 1959. In Iran 11 cases were recorded in the Miandoab district of the Kurdistan in 1958.

The presence of rodent plague was notified in Africa in the areas of the Belgian Congo and Kenya where human cases were also reported. In the United States plague infection was found among rodents in Klamath County, Oreg., in 1958, and in Tuolumne and Mariposa Counties, Calif., in 1959. During 1959 infection among rodents was also reported in the Bojolali Regency, Indonesia, and Hamadan City, Iran.

Cholera

Cholera incidence in 1958 was higher than during the four preceding years, and epidemics occurred in Thailand, Nepal and West Pakistan as well as in India and East Pakistan. According to revised figures some 98 000 cases were notified in Asia during the year as compared with 64 000 in 1957 and 242 000 in 1953.

In 1958 about 16% of all cases notified during the year occurred in East Pakistan,

i.e., 16 423 cases, of which 10 541 were fatal. The apparent case-fatality rate in East Pakistan (64%) is higher than in India and may indicate that the notification of cases is incomplete.

According to revised figures, 66 536 cases with 28 527 deaths (corresponding to 43% of the cases) were recorded in India in 1958. About 30% of all these cases were notified in West Bengal and Bihar, while over 60% were recorded in the central and southern States of Orissa, Madhya Pradesh, Bombay, Mysore, Andhra Pradesh and Madras, where 55% of all cases in India occurred in 1957. At the time of the seasonal peak in August 1958, the disease also spread to the north-western part of the country as far as Delhi and some districts of Punjab and Rajasthan.

In West Pakistan, after ten years' freedom from cholera, there was an outbreak in November 1958 and cases were recorded in the districts of Lahore, Sukkur and Dadu, as well as in the Karachi area (318 cases in all).

In Nepal, an epidemic occurred in July 1958 in the Kathmandu area and accounted, according to revised data, for 2706 cases and 384 deaths.

In May 1958 cholera broke out in Thailand, from which the disease had been absent since 1949. About two-thirds of all reported cases (11 597) were recorded in Bangkok and the neighbouring Thonburi Province.

Provisional totals of cases notified during the first nine months of 1959 indicate an unusually low incidence in India and East Pakistan: only 8636 cases in India, of which 2184 occurred in West Bengal, and 5306 cases in East Pakistan.

In Thailand 6970 cases (with 492 deaths) were notified during the first nine months of 1959. The seasonal peak was reached during the week ending 14 February with 1090 cases, of which 949 occurred in the Bangkok and Thonburi areas.

Yellow fever

In 1958, 56 cases of jungle yellow fever were officially notified in the Americas, of which 22 cases (in 17 local areas) occurred in Colombia, 16 (in 9 areas of Mato Grosso, Goias and Minas Gerais) in Brazil, 10 in Venezuela, 6 in Peru and 2 in Bolivia. During the first nine months of 1959 only 4 cases were reported in Colombia, 3 in Brazil, 1 in Peru, and 2 in Trinidad (Narica-Mayaro County) where the disease had not been observed since 1954.

Except for the 2 cases in Trinidad, and 1 case in Peru, all cases notified in the Americas in 1958-59 occurred in areas where the disease had been reported occasionally during the previous ten years.

No evidence of the presence of yellow fever in vertebrates other than man was officially notified in the Americas during 1958 and 1959.[1]

All 84 cases reported in Africa in 1958 occurred in the Belgian Congo, north of the Equator, in the Provinces of Equateur and Orientale. During the first nine months of 1959, only 3 cases were notified in Africa, of which 2 occurred in the Accra division in Ghana and 1 in the Bida division, Northern Region of Nigeria.[2]

Smallpox

Mainly owing to the unfavourable situation in India and East Pakistan, smallpox incidence was higher in 1958 than during any of the six preceding years and accounted throughout the world (outside continental China) for about 247 000 cases as compared with less than 150 000 annually from 1952 to 1957, and 489 000 in 1951. India and Pakistan accounted for 88% of all cases officially reported in 1958. Although the figures for 1959 are provisional and often very incomplete, they indicate, with only one exception (Thailand), a very low incidence during that year.

Africa

The total of officially notified cases fell from about 33 000 in 1957 to 20 000 in 1958 while only about 9000 were provisionally

[1] The Director-General of WHO recently requested States in the previously existing yellow fever endemic zones and other areas, where appropriate, to continue or to start searching for yellow fever virus in vertebrates other than man.

[2] There was, however, an outbreak in Sudan in November 1959, i.e., outside the period covered by this article.

recorded during the first nine months of 1959. The improvement in the situation is noteworthy in the western part of the continent: in Nigeria, the territories formerly comprising French West Africa, and Sierra Leone. Smallpox incidence was still very high in Liberia where, according to incomplete and irregular reports, over 5000 cases occurred in 1958.

The Americas

Brazil, Colombia and Ecuador are at present the main foci of smallpox in the Americas, where 3595 cases in all were officially registered for 1958, and 2278 were recorded in the first nine months of 1959. In several South American countries the downward trend of smallpox incidence continued in 1958-59, when the number of officially notified cases decreased in Bolivia and in Colombia, and only a few cases were recorded in Argentina, Paraguay and Panama. It is not possible to judge the situation in Brazil owing to the absence of current data. However, the occurrence in 1959 of an epidemic with some 600 cases in the urban area of Belo Horizonte (capital of the State of Minas Gerais) would indicate that smallpox is still an important problem in that country.

Asia

In 1958 the number of cases reached about 168 000 in India as compared with 79 000 in 1957; it remained, however, lower than in 1951 (about 251 000 cases). Some 46 000 deaths were recorded, corresponding to about 13 smallpox deaths per 100 000 population. The highest numbers of cases were reported in the States of Bombay (28 000), West Bengal (27 000), Orissa (24 000), Andhra Pradesh (16 000) and Uttar Pradesh (15 000). The seasonal peak was reached in Bombay and Orissa in March, in West Bengal and Andhra Pradesh in April, and in Uttar Pradesh in May. According to provisional data, the incidence was low in India in 1959, the total number of cases reported up to 30 September being below 50 000.

In Pakistan, the worst smallpox epidemic since the State was created occurred in 1958 in East Pakistan; about 48 000 cases and some 22 000 deaths were recorded, corresponding to a death rate of 53 per 100 000 population. The number of cases was no doubt still higher as the apparent case-fatality rate reached 46%. The seasonal peak occurred in May, in contrast with neighbouring West Bengal where the peak was reached a month earlier. In 1959 the number of cases decreased substantially, but was still higher than during the six years preceding 1958.

Smallpox incidence was also high in Indonesia in 1958, cases occurring mainly in Sulawesi Province. Although the current notification of cases is incomplete, one outbreak in Butung Island, south of Sulawesi, was stated to have caused 5137 cases and 485 deaths in September 1958.

In April 1959 an outbreak of smallpox occurred in Singapore (10 cases). In July the disease appeared in the southernmost provinces (mainly Pattani and Yala) of Thailand, accounting for some 1400 cases up to the end of September.

Europe

Imported infection caused two foci in Europe in 1958-59: one near Liverpool in the United Kingdom (5 cases) in April 1958, and the other at Heidelberg in Germany, where the infection, brought from India by a German physician, caused 29 cases in December 1958 and January 1959.

Typhus

Ethiopia (4749 cases in 1958) is at present the main focus of typhus. Many sporadic cases are still notified in the Province of Egypt, United Arab Republic (533 in 1958), Ecuador (244 in 1958), Mexico (432 in 1958), Republic of Korea (190 in 1958), and Yugoslavia (216 in 1958).

According to provisional data for the first nine months of 1959, an increase in typhus incidence was recorded in the Province of Egypt (789 cases), Colombia (95 cases as against 31 in 1958), Afghanistan (40 cases as against 7 in 1958), and Turkey (20 cases as against 7 in 1958).

Relapsing fever

The only important focus of louse-borne relapsing fever during recent years appears to be in Ethiopia. The number of cases (some of which, no doubt, are due to the tick-borne form) officially notified in Ethiopia (including Eritrea) rose from 3220 in 1957 to 5009 in 1958; 4402 cases were notified during the first nine months of 1959.

Three cases ascribed to the louse-borne form were notified in the Belgian Congo in 1958 and 1 in 1959, while 3 cases were reported in Iran in 1958. Sporadic cases of relapsing fever of unspecified form were reported in 1958 in the following African and Asian countries and territories: Algeria (18), Portuguese Guinea (14), Nigeria (1), Somaliland (1), Tunisia (5), Cyprus (1) and Republic of Korea (1).

During the first nine months of 1959 cases were reported in Tunisia (2) and Turkey (1).

Reports of Expert Groups

Requirements for biological substances

With the aim of promoting uniformity in the production and assay of important biological substances and in the standards to which these substances should conform, WHO is convening a series of study groups whose task is to formulate requirements which can be internationally recommended. The reports of the first three study groups have now appeared. Each report consists of a brief summary of the general considerations of the group, with recommendations for further studies, while the requirements themselves are presented in the form of annexes. As far as possible, the same general plan has been followed in each of the annexes, the various aspects of manufacture and control being dealt with in the same order under the same or comparable headings. It is the intention that any or all of the requirements may be taken by national health authorities and used as they stand as definitive national requirements. Where appropriate, explanatory or amplifying notes on the requirements have been added in small type. The requirements formulated are naturally subject to the limitations of present knowledge and, in this sense, must be considered provisional. This is recognized in the reports and provision made for future revision.

These reports are issued, at the price of 1/9, $0.30 or Sw. fr. 1.— each, in the *World Health Organization Technical Report Series* as: No. 178 (manufacturing establishments and control laboratories, inactivated poliomyelitis vaccine); No. 179 (yellow fever vaccine, cholera vaccine); and No. 180 (smallpox vaccine).

Food-borne diseases

Centralization of food production and the mass distribution and consumption of food increase the risk of widespread outbreaks of food-borne diseases. It is essential, therefore, that measures for the control and prevention of these diseases should be strengthened, not merely in each individual country but also at the international level, since foods are being exported and imported on an ever-mounting scale, and tourist travel is continually increasing. If such measures are to be effective, they must be based on proper notification of cases of food-borne disease in each country and on the collation at the international level of the reports published by the public health administrations. In addition, thorough epi-

demiological surveys are required. In the report of the European Technical Conference on Food-Borne Infections and Intoxications sponsored by the WHO Regional Office for Europe,[1] the various control measures designed to promote the production of pure and safe food are reviewed. The report contains a series of recommendations on what the physician should do when faced with a case of food-borne disease, on action to be taken by the public health services and laboratories, and on national and international measures for the control and prevention of such diseases.

[1] European Technical Conference on Food-Borne Infections and Intoxications (1959) *Report* (*Wld Hlth Org. techn. Rep. Ser.*, No. 184), 18 pages. Price: 1/9, $0.30, or Sw. fr. 1.—. Also published in French and Spanish.

Notes and News

Malaria in Africa

A meeting of malariologists from all parts of Africa south of the Sahara was held by the WHO Regional Office for Africa at Brazzaville, Republic of the Congo, from 3 to 6 November 1959. The meeting was also attended by internationally known malaria experts from other parts of the world.

The many special problems presented by malaria in Africa were discussed. These include the remarkable intensity of transmission by the anopheline mosquitos, and the unpredictable behaviour of the mosquitos themselves. There is also the problem of immunity: in areas where transmission is intense and continuous, there is heavy loss of life among young children; however, immunity begins to develop among the surviving children as they grow older, and is very high in adults. If, in such circumstances, antimalaria measures were only partly effective and were withdrawn, the protected population, having lost its immunity, would be exposed to possible catastrophe by the reintroduction of the disease. On the operational level, there are problems of logistics, communications being poor, or even absent, in many parts of tropical Africa. There is also a dearth of trained personnel, particularly technicians and supervisors.

It is not known whether transmission can be interrupted by spraying with DDT alone throughout much of the African Region; the administration to the population of malaria suppressives mixed with common salt is therefore being considered. This method is being tried out by WHO in an area of northern Ghana with a population of 60 000.

The meeting discussed applied research to overcome the technical problems which beset the malaria eradication campaigns in tropical Africa. For instance, because of the remarkable immunity of the adult population, many persons with malaria parasites in their blood show no evidence of fever, although they are carriers of the disease and a factor in its transmission. Finally, there is always the possibility that mosquitos in Africa may develop resistance against DDT, as they have already done against dieldrin in many parts of the continent. Further weapons must therefore be developed by malariologists and held in readiness against such an emergency.

Public relations and malaria eradication

The following examples, drawn from WHO-assisted programmes, indicate the need for well-organized health education both before and during malaria eradication campaigns.

In one part of Africa, spraying teams are finding more locked houses than before, and less readiness to help by removing furniture. This is because dieldrin has replaced DDT, and is proving much less popular. For one thing, it is applied only once a year, whereas DDT was applied twice; this has given people the idea that the spraymen are neglecting their job. Moreover, there is less visible deposit from the dieldrin, and this has given the impression that a " weaker " solution is being used. In addition, the side effects of the spraying—particularly the temporary disappearance of rats from the premises—

are less marked than they were in the days of DDT.

In another part of Africa, DDT spraying had temporarily ended bed-bug infestation. When, however, the bugs developed resistance, refusals to admit the spraymen seriously jeopardized the success of the programme—in fact, some of the inhabitants even threatened to beat the spraymen if they dared to return. Eventually, it was decided to use a combination of DDT and BHC, which it is hoped will prove effective. Whatever the outcome, it is clear that the bed-bug problem has become associated in the minds of the inhabitants of the area with the malaria campaign. Future policy will require careful control, because experience elsewhere has shown that bed-bugs can become resistant to BHC also.

The third example comes from a village of 270 inhabitants in the Western Pacific Region, where a child died soon after the collection of blood samples. As a result of this, the greatest difficulty was experienced in obtaining further samples. The team leader, using an interpreter, eventually managed to get 15 slides from the under-10 group, including one which showed *P. falciparum* infection with gametocytes. Unfortunately a second child died shortly afterwards, and again it became almost impossible to get blood samples. A special effort has now been made to give the people the full facts, with the greatest possible clarity and in their own language.

It appears that the only way to guard against such setbacks is to start propaganda early, and to keep it going continuously, adjusting it to any changes in technique before they are made, and reacting swiftly to any extraneous events that might have a bad effect on relations between the workers and the public. This applies to all phases of the programme.

Yaws in Haiti

A WHO Expert Committee on Venereal Infections which met in 1949 discussed the mass treatment of yaws with penicillin.[1] The techniques available lent themselves to mass application, it felt, because of their simplicity, the non-toxicity and low cost of the antibiotic, and the rapid epidemiological control over the disease that they conferred. To demonstrate this, it was decided that a large-scale project should be carried out in a geographically delimited area with a high prevalence of disease, the attack being based on the use of repository penicillin preparations.

Haiti is a geographically well-defined area, and the prevalence of yaws there was high at that time. Indeed, preliminary surveys showed 36.5% of the people to be affected. A campaign was begun in 1950, with assistance by WHO, UNICEF, and the Pan American Sanitary Bureau. For practical purposes everyone with lesions was regarded as a case, and the rest of the population as contacts. Mobile daily clinics were first set up in a small area; the main campaign was then organized, 97% of the population being examined, and treated with penicillin in 2% aluminium monostearate (PAM). The whole country was covered by house-to-house surveys.

The first phase of the campaign lasted from 1951 to 1954. To prevent any recrudescence of the disease on a large scale the country was divided into 78 zones, each with an inspector in charge, whose duty it was to seek and treat active cases of yaws and contacts. Supervision was inevitably inadequate, the staff being small; but spot surveys were carried out and infectious lesions diagnosed by microscope. In a later phase of the programme—from August 1956 to July 1957—house-to-house treatment surveys were made of foci found in follow-up spot surveys where the prevalence of yaws was now 1-2%. A general estimate of the prevalence of the disease made at about this time put it at around 0.5% for the whole of the population.

The launching of a national mass smallpox vaccination campaign in July 1957 provided an excellent opportunity for combined operations. The yaws campaign continued on an increased scale. Case-seeking activities and treatment were combined with smallpox work, and a case-finding division with a staff of 30 was formed to work in high prevalence areas. Unfortunately the smallpox campaign came to an end in November 1958 because of financial difficulties.

From November 1958 to May 1959 sample surveys of the population were carried out. These sample surveys covered 82 925 persons, i.e., 2.5% of the rural population (which was estimated to be about 3.5 million), evenly distributed over the

[1] *Wld Hlth Org. techn. Rep. Ser.*, 1950, 13

country. Port-au-Prince and all towns with a population of over 1000 were excluded. A team of six experienced yaws inspectors with a reserve was specially trained, the diagnosis of an infectious case depending on microscopic dark-field demonstration of treponemes. All active cases were given 0.6 mega units of PAM, and all contacts 0.3 mega units regardless of age. On the basis of the survey findings, it was estimated there were some still 2090 infectious cases in the island.

By June 1959, 1600 of the infectious cases had been treated out of the total of 2090. The WHO medical officers in the campaign estimated that by the end of 1959 there would be no more infectious cases of yaws in the whole of Haiti.

Specifications for pharmaceutical preparations

A WHO Expert Committee on Specifications for Pharmaceutical Preparations met in Geneva from 9 to 14 November 1959. Its main subject of discussion was the preparation of a second edition of the *Pharmacopoea Internationalis*, which is to be produced with the help of laboratories and specialists in many countries. A number of suggestions for improving and bringing up to date the text of the first edition were considered, as well as proposed new texts for general procedures, while some of the monographs describing pharmaceutical preparations were revised. Among other subjects discussed by the Committee were the classification of pharmaceutical preparations for reasons of safety, and the possibility of supplying national health administrations with data on new pharmaceuticals. Arrangements were made for completing a series of specifications for reagents required to carry out the tests and assays described in the first edition of the *Pharmacopoea Internationalis*.

Expert Committee on Rabies

The WHO Expert Committee on Rabies met in Geneva from 14 to 19 December 1959, to revise previous recommendations in the light of recent findings. Research work on rabies, which has been carried out in different laboratories and co-ordinated by WHO, was discussed. This work has been largely concerned with immunization against the disease and with its epidemiology in wildlife. Reduced schedules of vaccination and the effects of inoculations with immune serum have been studied, as well as methods of eliminating the undesirable reactions or complications which sometimes occur after administration of vaccine. Other improvements in the production and testing of vaccines for human and animal use were considered, as well as recent improvements in technical methods of diagnosing rabies and laboratory investigations on the virus.

The question of revising the WHO monograph *Laboratory Techniques in Rabies* [1] in the light of developments since its publication in 1954 was considered. The Committee also reviewed progress in a world-wide survey—recently started by WHO—of the incidence of rabies and the methods used to combat it.

BCG vaccine production

Representatives of five countries in the Western Pacific Region with laboratories producing BCG vaccine—Australia, China (Taiwan), Japan, the Philippines and Viet Nam—met at the WHO Regional Office in Manila, Philippines, from 16 to 20 November 1959, to discuss technical problems involved in the production of this vaccine. By arrangement with the WHO Regional Office for South-East Asia, the meeting was attended by representatives from India and Thailand.

The main topics discussed were: BCG strains used for vaccine production (maintenance of strains and substrains, comparison of different strains); the preparation of BCG vaccine (age of culture, effect of pH on culture and vaccine, clumping and the use of Tween 80); methodology of BCG vaccine control (techniques used in the counting of viable units, effects of different diluents).

Nursing administration in Europe

A European Conference on Nursing Administration, sponsored by the WHO Regional Office

[1] d'Antona, D. et al (1954) *Laboratory techniques in rabies* (*World Health Organization : Monograph Series*, No. 23)

for Europe, took place in Bad Homburg, Federal Republic of Germany, from 11 to 20 November 1959. The participants included directors of nursing services and nursing schools, hospital administrators, medical directors and public health administrators concerned with nursing services, from 24 European countries.

This was the sixth in a series of conferences organized by the WHO Regional Office for Europe to study various aspects of nursing today and to prepare for demands expected to be made on nursing services in the future as a result of changing concepts of health care. Its subject has vital implications in all fields of nursing, since without good administration effort is wasted, morale deteriorates, the sense of vocation may be dimmed, and progress may be impeded. The specific subjects discussed included: philosophy of administration, sociological and psychological aspects of administration, and the training of the nurse-administrator.

Co-ordination of smallpox campaigns

A co-ordination meeting on smallpox was held by the WHO Regional Office for Africa, at Brazzaville, Republic of the Congo, from 16 to 19 November 1959. Data on the distribution of the disease in the Region have been collected during an enquiry made by WHO as part of its programme for the eradication of smallpox throughout the world. The distribution in Africa proved very uneven: considerable areas were completely free from the disease, while there were endemic foci in others, particularly on the west coast and in central Africa. In most of the latter areas, antismallpox campaigns are being planned, and the meeting was called to co-ordinate and reinforce them.

One of the main problems considered was the indifference, or even opposition, to vaccination on the part of certain populations, often due to religious convictions, tribal beliefs, superstition, or lack of education. In one rural area, it was reported, tribal chiefs even organized resistance against the campaign. Health education services are therefore being organized to overcome such difficulties.

Regional Conference on Malaria Eradication

A Regional Conference on Malaria Eradication was held by the WHO Regional Office for the Eastern Mediterranean at Addis Ababa, Ethiopia, from 16 to 21 November 1959. It was attended by malariologists from 12 countries, and by representatives from the headquarters of WHO and ICA (International Cooperation Administration) and the area office of UNICEF.

The discussions came under four main headings: planning, administrative and financial aspects of malaria eradication programmes; technical problems connected with spraying and surveillance; technical problems arising from nomadism and insecticide resistance; and international co-ordination. The status of antimalaria programmes in the Eastern Mediterranean Region, and in neighbouring countries of the African Region, was reviewed. The results of malaria eradication pilot projects in Ethiopia, the Sudan and Somalia were discussed, as well as the findings of the pre-eradication surveys in Tunisia and the Province of Egypt, United Arab Republic, and the procedures used in these surveys.

Spreading agents in larvicides

The surface film on natural waters to some extent impedes the spread of droplets of oil from larvicide sprays. It has therefore been assumed that larvicidal oils with a high spreading pressure would be more effective than others. As certain reports threw doubt on this assumption, it was decided to test it experimentally.

In an article which has just been published in the WHO Bulletin,[1] A. S. Msangi of the East African Institute of Malaria and Vector-Borne Diseases describes trials with two forms of larvicide, one containing a spreading agent (spreading pressure, 36 dynes/cm) and one without (spreading pressure, 16 dynes/cm). The trials were carried out on *Anopheles gambiae* in tanks, and also in flowing water.

The results of the trials suggest that the assumption that the spreading capacity of an oil can be improved by an agent capable of overcoming the often high surface tension of the water is a purely

[1] *Bull. Wld Hlth Org.*, 1959, 21, 773

theoretical one. In the field, atmospheric conditions play an important part, wind and rain breaking the surface film and facilitating the spread of the oil. Moreover, there is no proof that larvae are killed solely by direct contact with the oil. Some workers have obtained good results with a 5% solution of DDT dropped on mats of algae in ditches where the oil did not spread. There are various possible explanations for this: in evaporating, for example, the oil may leave behind crystals of insecticide suspended in water and these may be absorbed by the larvae; or pollen grains or particles of dust falling on the water surface may become impregnated by the insecticide and then used by the larvae as food.

Epidemiology of A2 pandemic influenza

Several aspects of the 1957-58 influenza pandemic in the Netherlands are of special interest in the epidemiology of the disease in general. The pandemic reached the country in June 1957, at a moment when the incidence of respiratory diseases was at a low level. It was thus possible to gain an exceptionally clear picture of its development and course.

The disease was introduced by boat and aircraft from Indonesia, and perhaps from the eastern Mediterranean area, provoking an epidemic which lasted for ten months. In an article on the epidemiology of pandemic A2 influenza in the Netherlands—shortly to be published in the WHO Bulletin—J. Mulder and N. Masurel discuss primary and secondary foci, means of propagation, and morbidity and mortality rates (there was 1 death per 3700 inhabitants, as against 1 per 230 inhabitants in the 1918 pandemic). They also give the results of serological analyses among important groups of the population.

The community-wide outbreak observed in September-October 1957 was preceded about two and a half months earlier by a series of local outbreaks. This is a phenomenon which had already been observed as long ago as 1896, but, owing to the absence of virological confirmation, it is not known whether the preliminary and general outbreaks at that time were caused by the same virus. The serious epidemic which broke out among 18 000 Ambonesians in more or less isolated camps in the Netherlands in 1957-58 provides a clear-cut, possibly unique, illustration of the role of overcrowding in the propagation of the disease, almost 85% of the persons in these camps being affected.

The influence of climate in the epidemiology of influenza has always been a much discussed point. In the present case, it appears that fine summer weather up to late August retarded the spread of the infection in the northern hemisphere, and that a recrudescence of the disease between January and March 1958 was favoured by wintry conditions. The rather abrupt appearance of a community-wide wave lasting for about two months is difficult to explain except by an extensive "seeding" of the virus during the preceding period. The prevalence of A2 influenza for a period of six months after the main wave had subsided shows that the virus was apparently able to maintain itself in a partially immune population for some time.

Accidental death of two WHO doctors

Dr Manuel Gauthier and Dr Jean Fraisse, two WHO staff-members of French nationality, died as the result of a motor-car accident near Ibadan, Nigeria, on 3 December. Both were working in a yaws campaign centred at Enugu in the Eastern Region of Nigeria.

Dr Gauthier was born in 1913 at Orbec, Calvados, France. He completed his medical studies in Paris and subsequently obtained a degree in public health at the University of Montreal. He joined the health services of the French army and worked in Indochina and in North Africa. He was engaged by WHO in 1951 and put in charge of tuberculosis campaigns in Iran, Viet Nam and Cambodia. He took up his post in Nigeria in 1958.

Dr Fraisse was born in 1920 at Santa Rosalia, Mexico. He attended the Lycée Pasteur in Paris, and studied medicine at the University of Paris. After working for the French army health services in Viet Nam and Laos, he joined WHO in 1955 and was assigned to the yaws campaign in Nigeria.

People and Places

Research on relapsing fever

Dr Hélène Sparrow-Germa, of France, was recently appointed to advise on the preparation of a research programme on relapsing fever as part of WHO's expanded programme of medical research.

Louse-borne relapsing fever, the causal agent of which is *Borrelia recurrentis*, is a quarantinable disease. During and after the two world wars it caused veritable pandemics, which affected millions of people in eastern Europe, Africa and the Eastern Mediterranean Region. It was also prevalent in India and China.

Dr Sparrow-Germa, working with Charles Nicolle at the Tunis Pasteur Institute, made a fresh study of this disease during an epidemic in Tunisia between 1943 and 1946, when 400 000 cases occurred among a population of 2 500 000. The *B. recurrentis* strains then isolated were studied and maintained at the Tunis Pasteur Institute. Knowledge of these strains, particularly as regards the conditions governing transmission of the disease to man, was extended through their successful use in the recurrentotherapy of general paralysis in two Tunisian hospitals for mental patients. However, the complete disappearance, after 1946, of louse-borne relapsing fever in Tunisia left the problem of the origin of the epidemic unsolved.

In 1955, to help in clearing up this problem, WHO enabled Dr Sparrow to visit Ethiopia, where the two forms of relapsing fever—tick-borne and louse-borne—co-exist endemically, with seasonal flare-ups. Study of the strains isolated during this investigation in Ethiopia was continued at the Tunis Pasteur Institute and in various other centres to which Dr Sparrow forwarded them. Several papers on the subject have been published since 1955.

In showing that the endemo-epidemic strains of *B. recurrentis* found in Ethiopia are identical with those isolated in Tunisia during the 1943-46 epidemic, Dr Sparrow's investigations confirm epidemiological findings which suggested that the high plateaux of East Africa, and perhaps of Central Africa, constitute dangerous foci from whence louse-borne relapsing fever has spread as a result of troop and population movements during and after the Second World War.

Dr Sparrow's work also shows the importance of carrying out other investigations so as to clarify possible relationships between the two forms of fever and to define precisely their areas of distribution in East Africa (where a considerable number of cases are notified every year without the differential diagnosis being given). This would help in the elimination of the focus which seems responsible for the recent epidemics. There can be no doubt that, in the light of the incidence of louse-borne diseases and particularly the high number of relapsing fever cases notified during recent years, population movements which take place over large areas of Africa without any sanitary supervision must be viewed with some concern.

Yaws in Ceylon

A campaign against yaws in Ceylon began soon after the First World War. Steady progress was made until about 1935, after which the campaign was continued less intensively by teams of three who visited endemic areas and treated cases.

In 1955 a yaws survey was made in an area of the Central Province, and only three cases of early yaws were seen; there was some hyperkeratosis of the soles and a high sero-positivity rate. Another survey was carried out in the Southern Province in 1957; no cases of early yaws were found and only 0.1% of the population suffered from late non-infectious yaws. These two surveys suggest that the prevalence of yaws has now been greatly reduced in Ceylon.

Dr L. H. Turner has gone as a short-term WHO consultant to Ceylon to study the present low prevalence of yaws in the island, and to endeavour to find out the principal factors responsible for this reduction. Dr Turner has been working for the past eighteen years in Malaya, and for the past five years has been engaged in research on

virology and leptospirosis at the Institute of Medical Research, Kuala Lumpur.

Bilharziasis : epidemiology and control

Dr George Macdonald recently visited various countries in the African Region on behalf of WHO, to report on the significance of bilharziasis infection in relation to the general health pattern, the form of preliminary survey needed as a background to bilharziasis control, and research needs in this connexion. Dr Macdonald is Director of the Ross Institute, London School of Hygiene and Tropical Medicine, and has been extending to bilharziasis an epidemiological approach which has already been found valuable in the field of malaria.

Dr John G. Oughton will spend two years in Iran as medical zoologist on a WHO team which is planning a bilharziasis control programme in that country. He will there study snail ecology and advise on snail control. Before going to Iran, he will undertake a similar assignment in Iraq for a short period. Dr Oughton was educated at the University of Toronto, Canada, and has held positions with the Royal Ontario Museum of Zoology, and the Department of Entomology and Zoology, Ontario Zoological College.

Ophthalmological survey in the Sudan

Dr Javier Torroella, of Mexico, has been appointed WHO consultant for an ophthalmological survey of the provinces of Equatoria and Bahr-el-Ghazal in the Sudan, where there is a high incidence of blindness due to onchocerciasis. His task will be to select the most suitable areas in which to try out control methods, and to obtain data for future evaluation of the situation. A consultant on entomology will subsequently visit the area and advise on methods of vector control.

Dr Torroella is Chief of the Clinic of the Ophthalmological Department of the National Faculty of Medicine, University of Mexico, and consultant ophthalmologist of the General Hospital and Institute of Tropical Diseases, Mexico City.

Malaria appointments

Dr Cheng-Teh Ch'en, Director of the Taiwan Provincial Malaria Research Institute, has been appointed adviser in the malaria unit of the WHO Regional Office for the Western Pacific. In this capacity, he will help the Senior Regional Malaria Adviser in his task of speeding up malaria eradication throughout the Region. His duties will include making periodic visits to field projects to supervise WHO malaria field staff, and providing technical advice on the various phases of eradication. He will also help to analyse, assess and report on malaria programmes in the Region, estimate programme requirements, and take part in programme planning. Dr Ch'en obtained his medical degree from the National Taiwan University, Taipeh, and holds the degree of Master of Public Health from Johns Hopkins University, Baltimore, Md., USA. He has been associated with malaria work for the past ten years and for some time was in charge of the malaria eradication programme in Taiwan.

Dr M. E. Farinaud will act as WHO co-ordinator and senior adviser to the Pakistan Government in connexion with a malaria pre-eradication survey now being carried out in that country. He will be assisted in this task by consultants in epidemiology, entomology and malaria engineering, and will co-ordinate the work of two teams—each composed of a malariologist, an entomologist, a sanitarian, and a laboratory technician—which will work in East and West Pakistan respectively. Dr Farinaud first worked for WHO on a malaria programme in Viet Nam in 1951-52 and since then has acted as short-term malaria consultant for the Organization in various parts of the world.

Dr Alan Gilroy, Director of the Indian Branch of the Ross Institute, is taking part in the pre-eradication survey in Pakistan for a period of three months, during which he will study the epidemiological data collected by the two WHO teams. Dr Gilroy is a well-known malariologist of wide experience, and has frequently served as a short-term consultant for WHO.

Dr Mario Maffi has been appointed adviser in the malaria unit of the WHO Regional Office for Africa. His duties will be similar to those of Dr Cheng-Teh Ch'en (see above) in the Western Pacific Region. Dr Maffi has for the past six years been director of the malaria service in Somalia, being responsible for the conduct of epidemiological and entomological surveys, as well as spraying and other activities. He studied in Italy and, in addition to his medical degree, holds a

diploma in tropical medicine. Before his appointment in Somalia, he worked in tropical areas of Africa and the Americas, and in South-East Asia.

Dr B. S. J. de Meillon has been appointed entomologist in the malaria unit of the WHO Regional Office for Africa. In this capacity, he will assist the Regional Malaria Adviser in the over-all conduct of all malaria projects in the Region, including the planning of entomological procedures in pre-eradication surveys and entomological appraisal in the attack and consolidation phases of eradication programmes. He will also supervise and advise entomologists working in the field. Dr de Meillon has served with the South African Institute for Medical Research for the past twenty-three years. He has been entomologist on a WHO malaria eradication advisory team in Iraq, and has already assisted the Regional Office for Africa as a short-term consultant on entomology.

Dr. E. J. Pampana, former Director of the Division of Malaria Eradication at WHO Headquarters, recently served as instructor on the epidemiology of malaria at a course for senior malaria officers held at the Malaria Eradication Training Centre, Cairo, Province of Egypt, United Arab Republic. The Centre, which was set up by the Egyptian authorities with technical help from WHO, trains medical officers, engineers, entomologists, sanitarians and technicians from a number of countries in the Eastern Mediterranean Region. Dr Pampana has carried out similar assignments in Jamaica and Turkey.

Dr Shaikh Mohamed Rafi, of Pakistan, recently went to Jordan to direct a malaria eradication campaign which is being carried out with help from WHO. The holder of a D.P.H. from the London School of Hygiene and Tropical Medicine, Dr Rafi has had wide experience of antimalaria activities in the Punjab, West Pakistan and East Bengal.

Mental health appointments

Dr G. M. Carstairs, of the Institute of Psychiatry, Maudsley Hospital, London, is to advise the WHO Regional Office for South-East Asia on the organization of epidemiological surveys of mental illness. In the course of this assignment, he will visit the All-India Institute for Mental Health in Bangalore and other medical institutes and mental hospitals in India and Thailand. Dr Carstairs was recently put in charge of the newly created social psychiatry unit of the Medical Research Council of Great Britain.

Dr Morton Kramer has been asked by WHO to examine the value of mental hospital records in epidemiological surveys of mental disorder. In this connexion, he will visit Australia, China (Taiwan), India, Japan and the Philippines. Dr Kramer is a leading biostatistician and Chief of the Biometrics Branch, National Institute of Mental Health, Bethesda, Md., USA. In 1957, he was a member of the WHO Study Group on Ataractic and Hallucinogenic Drugs in Psychiatry, and in 1958 he took part in the technical meeting on epidemiological methods in mental health which was sponsored jointly by the Milbank Memorial Fund, the Medical Research Council of Great Britain, the World Federation for Mental Health, and WHO.

Dr Erich Lindemann, Professor of Psychiatry at Harvard Medical School, has been appointed by WHO to advise medical schools in India on the teaching of psychiatry. A specialist in social psychiatry, Dr Lindemann was educated at the Medical Academy of Giessen, Federal Republic of Germany. He was a member of the WHO Study Group on Ataractic and Hallucinogenic Drugs in Psychiatry, which met in 1957.

Leprosy Advisory Team

Dr K. M. Patwary, of India, has been appointed statistician on the recently created WHO Leprosy Advisory Team.[1] Educated in India and the United States, Dr Patwary has done postgraduate research on medical statistics at the National Academy of Sciences, Washington, D.C. Before taking up his assignment with WHO, he was lecturer at Howard University College of Medicine, Washington, D.C.

[1] See *WHO Chronicle*, 1959, **13**, 392.

Review of WHO Publications

PSYCHIATRIC SERVICES AND ARCHITECTURE

Psychiatric Services and Architecture, by A. Baker, R. L. Davies & P. Sivadon, Geneva, 1959 (*Publ. Hlth Pap.*, No. 1), 59 pages. Price: 3/6, $0.60, or Sw. fr. 2.—. French edition in preparation.

In man's development, say the authors of this new WHO publication, " there is a close parallel between his relations with other human beings and his relation with his environment. Both begin with the utmost simplicity but develop and differentiate until he has multiple and complex relationships in a large and complicated living area. The baby needs only his mother and can live in a cot. The infant lives in a world populated by his parents and siblings and needs only bed space and the immediate home area. The child finds personal relations with his family and children in the area and will use his home, his street or village, and his school. The adult has multiple personal relationships and will live in his town, may travel to other countries, and needs working space and social areas."

Psychiatric illness reverses this development, by restricting the patient's relationships and plunging him into an isolation which increases as his illness grows more severe. Modern treatment seeks to restore him to community life and to the wealth of relationships of the normal adult, not—as has been the fashion until recently —to aggravate his isolation by confining him in a prison-like institution where his liberty is restricted, companionship is largely denied him, and he is treated as an outcast and sometimes like a criminal. It follows from this that, as far as possible, he should be treated in the community and in the environment to which he is accustomed. If he is treated at home, the other members of the household should be given guidance and support in dealing with him and the resources of out-patient departments employed. If he is too ill for home treatment a day hospital may suffice. Only if he is too disturbed for these measures should he be admitted to full hospital care.

The mental hospital should be regarded as a temporary treatment unit, as a place where re-education for life and society can be carried out in the most effective manner possible, but without keeping the patient any longer than is absolutely necessary. It used to be thought that as many as a third of all psychiatric patients would become long-term inmates of institutions; but now the proportion is estimated at 5% or less, and it has even been suggested that only patients with progressive organic dementia need remain for any length of time.

The psychiatric services should be run by teams of doctors, social aides, nurses and others, working in close conjunction and forming part of the larger mental hospital teams. This system provides for personal contact and for the greater security of the community against the occasional dangerous patient. In the past many patients were secluded for fear of occasional aggressive outbursts; but these are too uncommon to justify routine incarceration. Compulsory seclusion—together with the remoteness and forbidding aspect of many mental hospitals—indeed had the effect of preventing treatment from being sought early by patients or their friends. Personal contact is of the greatest importance in treatment. A patient is happier if he sees a doctor he knows through all the stages of treatment, at home, at the out-patient clinic, or in hospital; this applies equally to the auxiliary staff.

Architecture and design come into the picture throughout treatment. At the out-patient clinic the doctor's office should not be too large, or it may overawe or frighten the patient; it should be reasonably soundproof and not overlooked; and it should not have a communicating door to give the patient the impression that a confidential discussion may be interrupted at any moment.

The day hospital of the type now being developed in some countries should be near the centre of the population it serves and be convenient for transport. It will contain individual rooms for psychotherapy or physical treatment, and larger rooms for group therapy, occupational therapy, work therapy and physiotherapy, as well as the usual staff quarters. In these hospitals, as in all other treatment units, the patient should be received by one person, and his initial contacts should take place in a small area with a limited number of people. No long dark corridors or lofty, gloomy rooms where he is left alone or surrounded by large numbers of other patients should be allowed.

The mental hospital should be sited close to the community it serves, not in a remote place where contact between the patients and their relatives is restricted, transport facilities are bad, and the isolation not only affects the patients adversely but makes staff dissatisfied and difficult to obtain. The patient should be encouraged to establish personal relationships, first with a small group then with larger ones. The wards must therefore be small enough for the patient to feel secure, to have some privacy, but not to feel isolated; and in the group in which he lives he should be encouraged to strike a mean between security and independence. Familiarity with places and persons increases the patient's sense of security, and the hospital should be arranged to help him orient himself without difficulty. Orientation in time is as important as orientation in space: there should therefore be clocks and calendars, events at fixed times during the day, and newspapers daily which will not only preserve his sense of time but also keep him in touch with the world outside the hospital.

The mental hospital should contain all the facilities required for work therapy, covering all activities from the simplest to the most complex. They will be based essentially on local traditions of work, so that the patient does not find himself engaging in an unaccustomed or outlandish activity. For the development of personal relationships there should be gatherings of a passive character, e.g., for cinema shows, television and talks, and also of an active character, to organize games and entertainments, for example, or to take part in the running of the hospital by means of committees. Plenty of scope should be allowed the patients to transform their material environment by decorating rooms, painting, or converting buildings. A fully equipped social centre is a necessity. Living quarters and essential areas should be designed to form a community not unlike a village, in which the medical centre would be a separate building or group of buildings. There should be specialized units for mothers and babies, children and old people. The booklet contains plans illustrating the lay-out of a suitable hospital and its wards.

Separate institutions may be required for psychiatric patients with antisocial tendencies, for alcoholics and drug addicts, and for epileptics and the mentally defective.

When the patient leaves hospital he enters upon a critical stage. Re-adaptation to normal life requires an atmosphere of security, and this he may not get if there is no intermediate stage between his living in hospital and being thrust out into the world to fend for himself. An after-care home provides an area of security within the community, and as such it should be architecturally independent of the hospital and similar to other houses in the town, looking like a private house or small hotel and having no external characteristics distinguishing it as a treatment or welfare institution. From the after-care home the patient should be encouraged to go out into the community to work; the home should not be so organized as to enable him to find everything he wants in it, so delaying his reintegration into society.

Not all patients will be fit to return to the community. Some of them, temporarily or permanently, will need sheltered workshops where the conditions enable them to do work which may be as good as, if not better than, the work of the normal person. Others, the "long-stay schizophrenic population", need a working settlement, the patients providing labour for farms in the rural areas and doing unskilled work in the towns.

The new approach to the problem of psychiatric buildings sketched in this booklet is a town-planning rather than an architectural approach, which substitutes for the heavy institutional style so evident in Europe and North America a humanized one combining variety and flexibility and conveying to the occupants a feeling of

belonging to a community. The authors discuss, and illustrate with plans, how such a hospital should be designed. Recognizing, however, that in many places there is small likelihood of new mental hospitals being built, they describe the conversion of existing hospitals to make them fit for modern use. In new as well as in converted buildings the question of function and design raises problems of daylighting and artificial lighting, colour, noise, and heating and ventilation, and these subjects are examined in turn. A final section is devoted to the architecture of psychiatric buildings in tropical countries.

Although this booklet primarily represents the views of three WHO consultants—two psychiatrists and an architect—the first draft was revised in the light of extended discussions between them and WHO staff members. The manuscript was then circulated among members of the Expert Advisory Panel on Mental Health and other distinguished psychiatrists and hospital architects throughout the world, and the final text took into account the views of 29 psychiatrists from 13 countries and 4 architects from 3 countries.

DIARRHOEAL DISEASES

Bulletin of the World Health Organization, 1959, Volume 21, Number 3 (pages 245-390)

In the past the diarrhoeal diseases were the principal cause of death among infants and children in practically all countries of the world, and they still are in many. Indeed, they are almost certainly a much more important cause of morbidity and mortality than statistics show them to be; for they are most common in the less developed countries, where medical services are lacking and disease and death are either misreported or not reported at all. The difficulty of obtaining a clear picture of their incidence and prevalence in the world is complicated by two additional factors. One is that their etiology is multiple: there is still no general agreement on the amount of diarrhoeal disease caused by each of the organisms most generally incriminated, *Shigella*, *Salmonella*, *Escherichia coli* and the enteroviruses, or on the role of malnutrition. This is not surprising, since the diarrhoeal diseases are so widespread and have so many symptoms in common that all cases require a full laboratory investigation for the identification of the causative organisms; and this they are least likely to get in the very countries where they most frequently occur. The other complicating factor is the wide and confusing range of terms used to describe the diarrhoeal diseases. These vary so greatly, not only from country to country but also within countries, that the chances of a uniform classification of the diseases and international comparability of the statistics on them are much impaired.

The papers in this number of the Bulletin deal with some of the problems of the diarrhoeal diseases, and describe the situation in some of the countries in which they are most prevalent. Hormaeche & Peluffo write on the laboratory diagnosis of *Shigella* and *Salmonella* infections. Many methods have been evolved for the isolation of the causative agents of the diarrhoeal diseases, not all of them as effective as they might be. In order to ensure that diagnostic methods are as internationally representative and acceptable as possible, WHO has requested well-known experts to write a series of studies on the laboratory diagnosis of certain diseases, and this is one of them. It has been read and approved by a number of experts from different countries, and may be taken as representative of accepted international opinion.

Newell deals with one of the groups of organisms most incriminated in the diarrhoeal diseases, the salmonellae. Salmonellosis, he points out, is of world-wide distribution and of high incidence, but of low mortality. Since the symptoms are often felt to belong to the natural order of things, are clinically non-specific, and are frequently confused with other forms of gastro-enteritis, even an efficient notification system or a laboratory reporting service is unlikely to result in an accurate estimate of its incidence, as the author shows from examples taken from the United Kingdom.

The source and methods of spread of the salmonellae are examined, and contributory factors such as personal susceptibility and local customs and habits evaluated. Control of the disease depends on a fuller knowledge of the causative agents, and must take into account animal reservoirs and the mode of transmission from animal to animal.

Linetskaya-Novgorodskaya reviews recent developments in the epidemiology of acute intestinal infections of non-dysenteric origin, with particular reference to findings in Leningrad. The ingestion of foodstuffs infected with salmonellae, she points out, is only one of the possible modes of infection, and not the most frequent. Children and adults who have had the disease continue to excrete salmonellae for a lengthy period, thus acting as an important source of infection. In maternity hospitals the mother infects the baby during childbirth, and the baby spreads the infection to other babies. These findings shed light on the processes of infection, and help simplify the task of control. *E. coli* is of the greatest danger to infants because of its association with epidemic diarrhoea. Research is required into its epidemiology, and especially into the suggestion that the main reservoir is not in animals but in man.

Hardy traces the changes in the pattern of mortality from diarrhoeal diseases among infants and children throughout the world, linking the decline in mortality in the more developed countries with improved standards of living and sanitation. Epidemiologically, two major types of diarrhoeal disease are observable in children: the acute episode occurring in the previously normal well-nourished infant or child, tending to be more frequent in the summer; and the chronic, progressive form most commonly found in the less developed countries, associated with malnutrition and retarded development, less severe than the acute episode but tending to persist or recur. Hardy examines the etiological role of the principal causative agents, and outlines a series of studies to advance our understanding of these diseases.

A group of papers are devoted to studies of diarrhoeal diseases in specific countries and territories; in what was formerly French West Africa, in the Philippines, and in Venezuela. In all of them these diseases exact a heavy toll of life, social and economic conditions favour their persistence, and statistical services are inadequate, so that the full extent of the problem is obscured. Curiel & de Ochoa propose measures for ensuring the comparability of statistics of gastro-enteritis in Venezuela. Davis and co-workers deduce from an analysis of certificates of death that failure to seek medical advice early enough and inadequate treatment contribute largely to the number of deaths in Manila. Sénécal sees prevention in West Africa as a long-term undertaking, to be achieved by stages.

Emili then discusses the diarrhoeal diseases in Yugoslavia, with particular reference to Croatia. Investigation of the etiology, epidemiology and prevention of these diseases is in his view one of the most compelling tasks facing the public health authorities, because of their high incidence and great importance. He outlines a programme of investigation on a wide front, to include statistics, a study of the etiology, an inquiry into the effects of sanitation, and a trial of methods of chemoprophylaxis.

In Brazil, the number of children under two years of age killed by the diarrhoeal diseases is greater than the number of persons of all ages killed by plague, smallpox, yellow fever, influenza, malaria, typhoid fever, whooping-cough and diphtheria. Penido describes how Brazil has sought to cope with this problem by rehydration centres, home visiting by nurses, the training of specialized personnel, the establishment of blood banks and lactaria, and environmental sanitation. In a paper about the USSR Maslov & Grechishnikova attribute the tenfold decrease in the mortality from the diarrhoeal diseases since 1913 to the measures taken against them and to the improvement in the material and cultural standards of the people. A network of child clinics has been created, expectant mothers are well cared for, and every effort is made to see that from birth children are properly looked after and fed in accordance with sound dietetic principles.

The next paper, by Yekutiel, describes the methods and results of a field study conducted over a period of 4 months in 1954 among 700 children up to 3 years of age belonging to families which had immigrated into Israel since 1950. It is followed by Schliessmann's review of the evidence in favour of the widely held thesis that improvements in environmental sanitation are responsible for the sharp decline in mortality and morbidity from the diarrhoeal diseases in some parts of the world. He considers in turn the provision of a safe and adequate supply of water in each home; sanitary methods of excreta disposal and prevention of faecal pollution of water supplies; prevention of access by flies and

other vectors of disease to human and animal faeces; the building of rodent- and vermin-proof houses with sufficient floor space; and sanitary control over milk and other foodstuffs.

The last paper is concerned with the etiology of the diarrhoeal diseases in general. Buttiaux points out that intestinal parasites (protozoa or helminths) are possible causes, as well as bacteria and the enteroviruses; and so too are enterotoxins, staphyloccal or streptococcal, or even excessive numbers of usually harmless bacteria. Buttiaux pays special attention to the role of *E. coli* in infantile diarrhoea, which is as yet obscure.

MENTAL HEALTH

Bulletin of the World Health Organization, 1959, Volume 21, Number 4-5 (pages 391-664)

The study of mental ill-health today is remarkable for its freshness of approach to old problems. The mental patient is no longer seen as an individual apart from society who should be isolated in gaunt, lonely barrack-like institutions far from towns, but as a member of the community who should be reintegrated into it as soon as possible, and who will benefit from sympathetic understanding instead of strait jackets and from surroundings that will not be, as they so often are, in dismal contrast to those in which he has been living. Hospitals have been thrown " open "; patients are being encouraged to go into hospital voluntarily; the amount of restraint and of seclusion has been greatly reduced; attempts have been made to persuade the patients to organize themselves; and there is a movement towards using psychiatric out-patient departments at local general hospitals as bases for the home treatment of patients. A paper in this issue of the Bulletin by Sivadon, from France, describes the successful conversion of an old-fashioned lunatic asylum into a modern mental hospital with treatment for the patients based on these new views.

A great part of the current reappraisal of the treatment of mental illness is due to the revived interest in the effect of drugs on the disordered mind. Drugs have been used for many years in treatment, but neither the bromides, the barbiturates, insulin, nor the others have aroused anything like the interest or hope that have been kindled by the vast number of new compounds now available. There is already a comprehensive literature on these psychotropic drugs, or psychopharmaceuticals, as Kline in a paper in this issue suggests that they be called. But the number of new drugs is so large, and there is such confusion, so many contradictory findings, about their properties, their side effects, and even their names, that attempts to bring some order into the field, short-lived though they must inevitably be in such an expanding field, cannot fail to be of some value. Such an attempt was made by a WHO study group which met in November 1957 to take stock of ataractic and hallucinogenic drugs used in psychiatry, and to define those areas which, in their view, required the most urgent inquiry. Some of the papers in this issue are revised versions of working papers submitted to this group.

An essential preliminary to the study of the drugs which influence psychological states is a clinical classification which will indicate the purposes for which they are used. Kline, of New York, provides this, along with an account of their principal side effects and the means of obviating them. In another paper, Jacobsen, of Copenhagen, discusses the comparative pharmacology of some psychotropic drugs, their effects on the different levels and different functions of the central nervous system, and the possible relationships between their central effects. He lays most stress on experiments conducted on animals, mentioning observations on human subjects only in so far as they have the character of experiments.

On the other hand, in two other papers, Sandison, of England, is concerned with human subjects, with the role of psychotropic drugs in individual and group therapy. The first pays particular attention to lysergic acid diethylamide (LSD), a compound with hallucinogenic properties which has only recently, along with mescaline, become of interest to persons other than students of primitive peoples and religions. LSD, he claims, helps bring to the surface unconscious material which is inaccessible to standard methods of analysis, and it should find a place among those drugs which improve the quality of the patient's understanding and help

control his symptoms. The second of Sandison's papers arises from the well-known observation that the action of certain drugs varies according to the mood of the individual and according to his environment. Psychotropic drugs form no exception to this rule. The psychological phenomena induced by deep insulin therapy, for example, differ according to whether treatment is given to individual patients or to a group of patients; indeed, the therapy is effective to the extent that it helps the patient to become a full member of the group. This is true of many psychotropic drugs, but the subject has not yet been adequately explored.

The last paper on the psychotropic drugs, by Lindemann, of Harvard, discusses the relation of the mental changes they induce to psychoanalytical theory. These drugs cannot be said to " cure " mental disease, but they do modify the personality structure and the perceptive, integrative, and executive functions of the ego, and so may encourage the appearance of greater adaptability in the patient and more adequate patterns of behaviour.

The next group of papers deal with mental health problems of the aged and aging, problems which are assuming increasing importance as the proportion of older people in the populations of the world rises. The incidence of mental and physical ill-health increases with age, for obvious biological reasons, but there is a wide range of variation in the extent to which the faculties decline, and the best hope of controlling or delaying the process of aging lies in the study of the reasons for this variation. Such a study will not confine itself to medicine, but will call upon psychology, sociology, physiology, genetics, and other disciplines. This is clear to the authors of the papers. Roth, from England, who writes on mental health problems of aging and the aged in general, discusses *inter alia* the social factors, the relationship between mental and physical health, and the value of fostering physical well-being and healthy adjustment during the earlier stages of life.

Bash, from Switzerland, examines the problem of mental health in old age from the standpoint of Jung's analytical psychology. The individual is born with a tendency towards either an extravert or an introvert attitude to life; but he must, in order to make his way in the world, develop an extravert attitude which will enable him to satisfy his biological drives. At the decline of life, however, this attitude no longer suffices, and mental health or ill health will result according to whether or not he can develop an introspective attitude and take advantage of the possibilities latent within him.

A paper by Sjögren and Larsson, from Sweden, discusses the difficulties of investigating mental illness in the old, and illustrates them by means of an inquiry carried out into the senile psychoses in Stockholm. Then Townsend, from London, examines the social surveys of old age conducted in Great Britain between 1945 and 1958. Much of the evidence collected is repetitive, much is poorly analysed, and some is no more than slight. But there is agreement that most of the aged lead a reasonably secure life within their families and are given care whenever they require it, only a minority—consisting of those confined to the house, those without relatives or contacts with society, and those who could do some work but are given no work to do—being in need. It is in this minority that mental illness is most widespread.

The last paper in this issue of the Bulletin, by Stengel, from England, deals with the vexed question of the classification of mental disorders. Diagnoses can rarely be verified objectively, and the same or similar conditions are described under a confusing variety of names. Stengel surveys existing systems of classification critically, and sets forth certain basic principles on which he believes a more satisfactory classification could be constructed.

* * *

Not a little of the credit for the present progressive and humane outlook on mental disease is due to the World Federation for Mental Health, an international non-governmental organization, founded in 1948, which works in close co-operation with WHO. Under its auspices a World Mental Health Year has been inaugurated, which began in April 1959. The Federation proposes during this year to embark upon a programme which will deal with the needs of children, the teaching of the principles of mental health, the sociological aspects of industrial change and mental health, and the psychological

problems of migration, and will also aim at promoting national surveys in the field of mental health and ill health. These are not projects which can be carried out within the limits of a single year; recognizing this, the Federation contemplates a major effort for about two years and the continuation of many of the projects for a considerably longer period.

CORRIGENDUM

Vol. 13, No. 12

NOTES AND NEWS

p. 460, item headed **Venereal infections and treponematoses**, l. 13

delete 90-95%
insert 5-10%

DIARRHOEAL DISEASES

Introduction

Laboratory diagnosis of *Shigella* and *Salmonella* infections—*E. Hormaeche & C. A. Peluffo*

The investigation and control of salmonellosis—*Kenneth W. Newell*

Acute intestinal infections of non-dysenteric etiology—*E. M. Linetskaya-Novgorodskaya*

Diarrhoeal diseases of infants and children: mortality and epidemiology—*Albert V. Hardy*

Les diarrhées infantiles en Afrique Occidentale française — *J. Sénécal*

A study of diarrhoea-enteritis deaths in infants in Manila, Philippines: report of a Joint Study Group of the Institute of Hygiene, University of the Philippines, and the Manila Health Department—*R.-A. Davis, F. del Carmen, R. B. Escosa, D. Quebral-Geaga, A. A. Librea, J. Portes jr, G. Roman, M. Tayback, A. Vergara-Valenzuela & V. C. Valenzuela*

Statistics of gastro-enteritis mortality in Venezuela—*Dario Curiel & Elena de Ochoa*

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Diarrhoeal diseases in Yugoslavia, with particular reference to Croatia—*H. Emili*

Prevention of mortality from diarrhoeal diseases in Brazil—*H. M. Penido*

Organization of the control of gastro-intestinal diseases in young children in the Soviet Union—*M. S. Maslov & L. V. Grechishnikova*

Epidemiological methods used in the study of infantile diarrhoea in Israel—*P. Yekutiel*

Diarrhoeal disease and the environment—*D. J. Schliessmann*

Les maladies diarrhéiques transmissibles du nourrisson et de l'enfant—*R. Buttiaux*

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